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(54)【発明の名称】　通話者情報表示方式及び記録媒体

(57)【要約】

【課題】本発明はインターネットプロトコルによるネットワークを介して複数の端末間で音声通信及びデータ通信を行うことが可能な通信システムにおける通話者情報表示方式及び記録媒体に関し，通話者情報の登録／更新が容易であり，且つ発信／着信者情報の表示を同時に行うことが可能にすることを目的とする。

【解決手段】予め各端末にそれぞれ自端末の通話者情報を格納する通話者情報格納部と，通話者情報の入力を行う入力部と，通話者情報を表示する表示部と，音声通信を制御する通話回路部と，発着信時に通話者情報の送受信を制御する通話者情報送受信制御部とを設ける。相手端末との音声通信による発・着信時に，発信側端末と着信側端末間で通話者情報を相互に転送して，呼出しまたは着信表示と同時に通話相手の情報を発信者，着信者の双方の端末の表示部に表示するよう構成する。

本発明の第1の原理構成
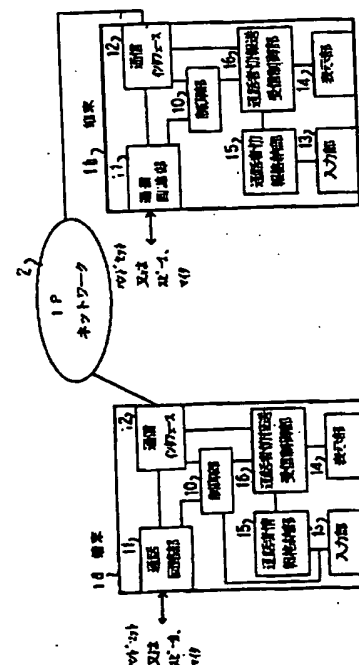
線当たり５６Ｋｂｐｓまで通信することが可能である。これに対し，ＶｏＩＰの１通話で使用する帯域は１０～２０Ｋｂｐｓ程度におさえることが可能であるので，電話回線１本当たり２～４通話行うことが可能となる。また，電話着信の際，通話相手の識別のため，応答前に電話番号や発信者の名前等，発信者情報を着信端末上に表示させるニーズは従来より強く，種々の方法が提案されている。

【０００４】

【従来の技術】図３２は従来例１の構成，図３３は従来例２の構成を示す。

【０００５】図３２の従来例１は，画像等の発信者の情報を集中して格納したデータベースを設けて各電話機に対応したパソコン上に表示させる技術であり，例えば，特開平１１－８８４９６号公報に開示されている。図３２において８０は加入者線交換機，８１は発信者番号受信装置，８２は多数の電話機に対して集中管理するために設けられた発信者情報格納データベース，８３は多数設けられた電話機，８４は各電話機８３に対応して設けられたＰＣ（パーソナルコンピュータ）である。この従来例１では，加入者線交換機８０の電話機８３に着信があると，着信時に加入者線交換機８０から送られてくる発加入者の電話番号を発信者番号受信装置８１で受信するとその番号を表示部（図示省略）に表示すると共に，発信者情報格納データベース８２に送る。発信者情報格納データベース８２では，データ検索部が発加入者の電話番号を用いてデータベースを検索して，検索されたデータ（発信加入者に関する画像やデータ）を着信が発生した電話機８３に対応するＰＣ８４に通信制御部を介して転送し，ＰＣ８４の表示部に表示する。発信者情報格納データベース８２は，一つの電話機８３から発呼する場合にも相手の名前を指定することで，対応する電話番号を検索してダイヤルが自動化する場合にも利用される。この時，検索された相手に関する種々の情報（画像データを含む）を発呼を行った電話機８３に対応するＰＣ８４の表示部に表示させることができる。

【０００６】次に図３３に示す従来例２の構成は，電話機能を備える通信端末に発信者情報のデータベースを内蔵する技術であり，例えば，特開平６－１２１３０２号公報に記載されている。図中，８５は電話交換機能を備えた通信ネットワーク，８６は電話機能を備えた通信端末，８７は送話器，受話器を含むハンドセットである。通信端末８６内には通信制御部８６０，通話回路部８６１，発信者番号検索部８６２，発信者情報データベース８６３及び発信者情報を表示するための表示部８６４と発信者情報を格納するための入力部８６５を備えている。

【０００７】この従来例２の場合も，通信端末８６に着信があると，着信情報に含まれた発信者番号を用いて発信者情報データベース８６３を検索し，発信者の画像を含めて予め格納された情報を表示部８６４に表示して，応答する前に発信者に関する知識が提供される。なお，この従来例２の構成によりこの通信端末８６から発信する時に，発信者情報データベース８６３に予め格納しておいた静止画像または入力部８６５としてカメラを使用することで発信者の動画像をリアルタイムで着信先に送信することもできる。

【０００８】また，上記したように音声情報をパーソナルコンピュータ（ＰＣ）を端末としてＬＡＮ（Local Area Network），イントラネット，インターネット等で電話を行うＶｏＩＰ（Voice over IP)技術が出現し，音声情報をＩＰ（ＴＣＰ／ＩＰの中のＩＰ：インターネットプロトコル）パケットに変換し，ＩＰネットワーク上で通話することが可能となった。

【０００９】ＶｏＩＰによるＩＰ電話の技術については，ＩＴＵ－Ｔ（国際電気通信連合電気通信標準化部門）によりＨ．３２３（非保証型ネットワーク上での音声・ビデオ通信に関する標準）として，その仕様が勧告されている。この標準仕様には，アナログ音声をディジタルに変換する符号化技術，符号化された音声データをＩＰパケットに乗せるパケット化技術，電話機が送出する相手先電話番号を調べて最適な経路を決める「呼設定処理」技術等がある。呼設定処理では，通信相手先の電話番号等の識別情報からＩＰアドレス情報をゲートキーパと呼ばれるサーバから取得し，相手端末と通信設定手順を行った後，音声データを直接相手端末との間で送受信し，音声通信を行うことが可能となっている。なお，同じＩＴＵ－ＴによるＨ．２４５（制御メッセージのプロトコルの標準）や，Ｈ．４５０（保留・転送等の付加サービスに関する標準）が勧告されている。

【００１０】

【発明が解決しようとする課題】発信者の情報を着信者に伝えることは可能であるが，着信者の情報を発信者に伝えることは考慮されておらず，例えば，着信先において転送等により他の着信先に着信した場合等では着信者の情報を知りたい場合があるが，従来技術では実現が困難であった。

【００１１】また，通信者情報を更新する場合に，上記従来例２の技術では，通信者情報が各端末内にあるため，各端末操作者が情報を更新する必要があり，かなり手間がかかっていた。更に，更新を怠ると最新の情報が表示されないため頻繁な更新作業が要求されている。

【００１２】更に，上記従来例１の技術では，データベースを複数端末に対し集中管理しているため着信時に交換機で発信者番号を受信した後，データベースを検索し，情報が見つかった後に着信端末に情報を転送し，端末上で情報を表示していたので，着信から情報表示まで時間がかかるという問題があった。

【００１３】また，従来の電話技術では電話発信時，緊急の要件であるのですぐ出て欲しい場合も相手にその旨

信者ともに相手の最新情報を着信／呼出し表示時に端末上に表示することが可能となる。

【0022】図2は本発明の第2の原理構成を示す図であり，図中，1は端末を表し図1の1a，1bに対応する。端末1内の符号10〜16は図1の同じ符号の各部と同じであり説明を省略する。図1と異なる部分は，17で示す相手端末から受信した通話者情報を格納する受信通話者情報格納部を設け，自端末の通話者の情報を格納する通話者情報格納部15内に通話者情報の更新時刻（日時）を示す時刻管理部150と受信通話者情報格納部17内に相手端末から受信した通話者情報の更新日時を格納する時刻管理部170とを設け，通話者情報送受信制御部16内に通話者情報の時刻（更新時刻）日時を通信相手と送受信する時刻交換部160を設けた点である。

【0023】図2では，以前に通信をした相手端末からの通話者情報を受信通話者情報格納部17に格納することを前提とし，各端末1の利用者は自端末の入力部13から通話者情報の更新（最初の登録も含む）を行った時にその更新時刻も入力すると，時刻管理部150に格納される。また，他の端末へ発信すると，相手端末は呼び出しメッセージを受け取ると時刻管理部150の更新時刻を発信側へ送信し，発信側の端末はこれを受け取ると受信通話者情報格納部17の中の時刻管理部170に格納された相手端末に関する以前に受け取った更新時刻と比較し，格納された更新時刻より今回受信した更新時刻の方が新しい場合は，通話者情報送受信制御部16に対し相手端末へ通話者情報を要求するメッセージを送信させ，以前に受信した更新時刻と同じなら改めて通話者情報を受け取る必要がなく，以前に受信した通話者情報を表示する制御が行われる。なお，相手端末の通話者情報が以前に受け取ってないと通話者情報の要求を行う。また，発信側の端末で着信側端末の更新時刻の比較を行っている時，着信先の相手側端末においても，発信側端末から更新時刻を受信すると，受信通話者情報格納部17の時刻管理部170に以前に受信した更新時刻と比較することで，同じ場合は以前に受け取って受信通話者情報格納部17に格納された通話者情報を表示し，受信した更新時刻の方が新しい場合は新たな通話者情報を発信側端末へ要求する制御を行う。

【0024】これにより，通信確立時にまず通話者情報の時刻情報（更新日時）だけ発信／着信端末間で交換しており，相手の通話者情報が自端末内に格納されてないか，格納されている時刻情報の方が古い場合にのみ通話者情報の送信を要求するので，発信／着信端末間での通信量を削減することができ，情報の受け渡しに必要な時間を短縮することができる。

【0025】図3は本発明の第3の原理構成を示す図であり，図中，符号1，10〜17は上記図2の同一符号の各部と同じであり説明を省略する。図2と異なる部分

は，18で示す呼毎メッセージ格納部を設けた点であり，これは発信呼毎に通信相手に対して相手が応答する前に送信したい呼毎メッセージを格納する手段である。

【0026】図3では，発信側の通話者は，発信操作をする時に，緊急度や用件を伝えるための呼毎メッセージを入力部13から入力すると呼毎メッセージ格納部18に格納される。呼毎メッセージ格納部18に格納されたメッセージは通信確立手順において相手端末に転送される。呼毎メッセージを受信した相手端末では，通話者情報と共に受信した呼毎メッセージを表示部14に表示させる。

【0027】これにより，発信側端末から着信側の通話者に対して応答する前に通話の緊急度や用件を知らせることができる。

【0028】図4は本発明の第4の原理構成を示す図であり，図中，符号1，10〜18は上記図3の同一符号の各部と同じであり説明を省略する。図3と異なる部分は，19で示す着信応答メッセージ格納部を設けた点である。

【0029】図4の着信応答メッセージ格納部19には，着信時に直ちに応答することができない事態に備えて，「今は手が離せない」等の複数の理由を表すメッセージを予め格納しておき，着信時に利用者が入力部13を操作することでそれらのメッセージをメニュー／ボタン上に表示して，その中から選択をするとそのメッセージが発信端末側へ着信応答メッセージとして送信されて，発信側端末の表示部14に表示される。

【0030】これにより，着信時に直ちに応答して通話することができない時に簡単な操作で発信者に理由（状況）を通知することができる。

【0031】図5は本発明の第5の原理構成を示す図であり，図中，符号1，10〜18は上記図3の同一符号の各部と同じであり説明を省略する。図3と異なる部分は，20で示す通話者情報フォーマット規定部を設けた点である。これは，通話者情報を入力する時及び表示する時のフォーマットを規定したものである。

【0032】図5において，端末の利用者は通話者情報を入力する時，氏名，所属等の各種の通話者情報を入力する時，各項目の情報が通話者情報フォーマット規定部20に規定するフォーマットに従って通話者情報格納部15に格納され，各端末間でフォーマットが統一される。そして，発信／着信時に通話者情報を送信する場合，フォーマットに従って各項目を示す識別子とその内容を示す情報のみを送信する。

【0033】これにより，通話者情報を転送する場合の情報量を削減して，情報転送時間を削減し，発信操作から情報表示までの時間を短縮することが可能となる。

【0034】図6は本発明の第6の原理構成を示す図である。この第6の原理構成には共有電話帳データベースシステムが示されている。図中，1aは発信側の端末，

は図1乃至図7に示す機能ブロックの名称を用いて記述する。

【0042】図10〜図12は端末の第1の原理構成（図1参照）による音声通信確立の処理フローを示し，図10，図11は第1の原理構成による発信側端末の処理フロー（その1），（その2）であり，図12は第1の原理構成による着信側端末の処理フローである。

【0043】図10，図11の発信側端末について概説すると，発信側端末の操作者が画像，氏名等を入力部から入力すると通話者情報格納部（図1の15）に登録し（図10のS1），入力部から相手通信端末のアドレス情報を入力して電話発信操作を行うと（同S2），相手アドレス宛てに呼び出しメッセージを通信インタフェース（図1の12）経由で送信する（同S3）。この後，相手端末からACK信号（受け付けを表す信号）を受信したか判別し（図10のS4），受信しない場合は，相手不在として表示部（図1の14）に表示して終了し（図10のS5），受信した場合は通話者情報送受信制御部は通話者情報格納部に格納されている端末の通話者情報を相手端末に送信する（同S6）。

【0044】この後，相手端末から通話者情報を受信したか判別し（図10のS7），受信しないと一定時間経過するのを待って（同S8），相手端末が通話者情報表示機能を持たないものとし，以降通話者情報の表示無しで動作させ（同S9）。相手端末から通話者情報を受信すると，次に相手端末から呼び出し中メッセージを受信したか判別し（図11のS10），受信すると通話者情報送受信制御部（図1の16）に，受信した相手端末の通話者情報と共に呼出し中の表示をし，呼び出し中音（リングバックトーン）を端末ハンドセットまたはスピーカに送出する（同S11）。この後，相手端末から応答メッセージを受信したか判別し（図11のS12），受信すると通話中を表示部に表示し，通話回路部（図1の11）に対し通話回路をオンにし，音声の送受信を行うよう指示する（図11の13）ことで音声通信が確立する。

【0045】図12に示す着信側端末の処理フローでは，上記発信側端末と同様に着信側端末の操作者が自分の画像，氏名等を入力すると通話者情報格納部に登録し（図12のS1），その後，発信側からの呼出しメッセージの受信を待ち（同S2），受信するとACKメッセージを発信側に送信し，着信側の通話者情報を相手に送信する（同S3）。この後発信側から通話者情報を受信したか判別し（図12のS4），一定時間経過しても受信しないと（同S5），以降通話者情報表示無しで動作し（同S6），S7に移行する。通話者情報を受信した場合，呼出し中メッセージを発信側へ送信し，通話者情報送受信制御部に対し受信した相手端末の通話者情報と共に着信中であることを表示させ，着信音を端末スピーカに送出する（同S7）。続いて，操作者による応答操

作が行われたか判別し（図12のS8），応答操作があると通話中であることを表示し，通話回路部に対し通話回路をオンにし，音声の送受信を行うよう指示し（同S9），音声通信が確立する。

【0046】このように図10，図11及び図12に示す発信側端末と着信側端末の各処理フローにより，相手に表示する通話者情報を通信確立手順において転送して表示することができ，着信側端末に発信者側の通話者情報を表示するだけでなく着信者の通話者情報を発信側端末に送信することで，発信者と着信者の双方が相手の通話者情報を表示して相手を識別した上で通話をすることができる。また，この時，相手の通話者情報を見て通話をしないように選択することもできる。

【0047】図13，図14は第2の原理構成（図2参照）による音声通信確立の処理フローを示し，図13は第2の原理構成による発信側端末の処理フローであり上記図10に示す第1の原理構成による発信側端末の処理フローのS1〜S4までは同じ処理であり，図10のS4から③で示すように分岐し，図13に示す最後のステップS9から図11のS11へ②の経路で戻るように構成されている。

【0048】図10のS1〜S4により発信端末側において発信して相手端末からのACK信号を受信すると，時刻管理部（図2の150）にある自端末の通話者情報の時刻情報を相手端末に送信し（図13のS1），着信側端末からの通話者情報の時刻情報を受信したか判別し（同S2），受信しない場合に一定時間経過したか判別し（同S3），一定時間が経過すると相手端末は通話者情報の表示機能を備えないものとして以降動作することを決定し（同S4），図11のS11へ移行する。また，着信側端末から通話者情報の時刻情報を受信した場合には，受信通話者情報格納部（図2の17）に当該通話情報が有るか判別し（図13のS5），無い場合は後述するS8へ移行し，有る場合はその受信通話者情報格納部の当該通話者情報の時刻管理部（図2の170）に保管された時刻情報と今回受信した時刻情報を比較し，受信した時刻情報の方が新しいか判別し（図13のS6），新しくない場合は受信通話者情報格納部に保管された通話者情報を表示する情報と決定する（同S7）。受信情報の方が新しい場合は通話者情報送受信制御部（図2の16）は相手端末に通話者情報を送信するよう情報要求メッセージを送信し（図13のS8），着信側端末から通話者情報を受信するのを監視し（同S9），受信すると上記図11のS11の処理へ移行して以後の処理を行う。

【0049】図14は第2の原理による着信側端末の処理フローである。

【0050】この第2の原理の着信側端末では，上記第1の原理の着信端末の処理フロー（図12）のS1，S2と同様に通話者情報を自端末に登録し，呼出しメッセ

を表示し，通話回路部（図4の11）に対し通話回路をオンにさせ，音声の送受信を行うよう指示し（図17のS7），音声通信を確立する。

【0058】図18は第4の原理構成による着信側端末の処理フローであり，上記図12に示す第1の原理構成による着信側端末の処理フローのS1〜S4までは同じ処理であり，端末から通話者情報を受信すると（図12のS4でYESの場合），⑥の経路で分岐し図17の処理に移行し，着信側端末では呼出し中メッセージを発信側端末宛に送信し，通話者情報送受信制御部（図4の16）に指示し，表示部に受信した相手端末の通話者情報と着信中の表示をし，着信音を端末スピーカに送出し（図18のS1），続いて着信応答メッセージの送信画面（応答メッセージ／操作選択画面）を表示し，操作者に対して操作を促す（同S2）。この後，着信応答メッセージ（着信者が手が離せない等の理由で電話に応答できない時の理由や状況を含むメッセージ）が選択されたか判別し（図18のS3），選択されると選択された着信応答メッセージを発信者（発信側端末）宛に送信し（同S4），呼出し途中放棄を検出したか判別して（同S5），途中放棄を検出すると処理を終了するが，途中放棄が検出されない場合には，上記S3で着信応答メッセージが選択されない場合と同様に応答操作（ハンドセットをオフフックする等）を検出したかの監視を行う（同S6）。応答操作が検出されると，通話中である旨を表示部に表示し，通話回路部に通話回路をオンにし，音声の送受信を行うよう指示し（図18のS7），音声通信を確立する。

【0059】上記図17，図18に示す発信側端末と着信側端末のそれぞれの処理により，通信確立手順において着信者が応答できない場合に，発信端末の通話者情報と共に着信応答メッセージを選択する表示を着信側端末に表示して，発信者に応答できない状況等を応答することなく通知することができる。

【0060】図19は第5の原理構成（図5参照）による音声通信確立の手順であり，特に第5の原理構成による発信側端末の処理フローを示す。

【0061】図19のステップS1〜S5までの処理は上記図10に示す第1の原理の発信側端末の処理フローのS1〜S5と同じであり説明を省略する。図19のS4において相手端末からACK信号を受信したと判別すると，通話者情報送受信制御部（図5の16）は通話者情報格納部に格納された発信側端末の通話者情報をフォーマットの項目を示す識別子と共に相手端末に送信する（図19のS6）。識別子としては，写真データを表す識別子，テキストデータを表す識別子というように，データの種別に対応して異なる識別子が割り当てられる。この後，相手端末から通話者情報を受信したか判別し（同S7），受信されないで一定時間経過したか判別し（同S8），一定時間が経過すると相手端末は通話者情

報表示機能を持たない端末として設定し（同S9），次の処理（①の経路）に移行する。また，通話者情報を受信した場合も①の経路により上記図11のS10の処理に移行し，以後の処理が行われる。

【0062】図20は第6の原理構成（図6参照）による共有データベース（データベースサーバ）への情報登録の処理フローを示し，IPネットワークを介して接続された端末により実行される。

【0063】図20の処理は端末において通信中または通信終了時に実行され，自端末の情報が更新されたか判別し（図20のS1），情報更新が無いと処理を終了するが，情報更新があるとサーバアドレス格納部（図6の21）に登録してあるデータベースアドレスに通話者情報の発信者アドレス情報と情報日付が入った問合せメッセージを送信する（図20のS2）。この後のS3〜S7の各処理はデータベースサーバにおいて実行され，問合せメッセージを受信したデータベースサーバは受信した情報を調査し（図20のS3），該発信者アドレスの情報が有るか判別し（同S4），無い場合は後述するS7の処理へ移行し，有る場合は受信情報日付は新しいか判別する（同S5）。この日付の判別は，上記図13，図14に示す第2の原理による時刻情報と同じであり，受信情報日付が以前に登録した日付と変わらない場合は，データベースサーバは問合せメッセージを送信した端末に対し，通話者情報の転送が不要な旨を通知し（図20のS6），受信情報日付が新しい場合は，データベースサーバは問合せメッセージを送信した端末に対し，通話者情報の転送を要求するメッセージを送信する（同S7）。この後，情報転送要求メッセージを受信した端末はデータベースサーバに通話者情報を送信し（図20のS8），通話者情報を受信したデータベースサーバは情報を更新し（同S9），情報更新を完了する。

【0064】このようにデータベースサーバに各端末の通話者情報を登録しておき，その内容を常時更新することで，最新の通話者情報が格納されるので，これを各端末間で共有することができ，共有電話帳のアプリケーションに使用することが可能となり，格納された通話者情報のフォーマットが統一されているので，情報をキーとして検索することが可能となる。

【0065】図21〜図23は第7の原理構成（図7参照）により処理フローであり，図21，図22は第7の原理構成による通話中端末の新規着信受信の処理フロー（その1），（その2）であり，図23は第7の原理構成による被保留端末の処理フローである。

【0066】図21，図22の処理は端末が通話中状態において実行され，通話中に新規呼出しメッセージを受信したか判別し（図21のS1），受信した場合，ACKメッセージを発信者宛に送信し，通話者情報送受信制御部（図7の16）は通話者情報格納部（図7の15）に格納されている端末の通話者情報を新規呼出し相手端

すような検索結果が表示される。この検索結果の表示に対し，「１」の氏名を選択するとＣ．に示すようにデータベースに格納された通話者情報が表示される。

【００７３】図２７は本発明による発信から通話中までの動作シーケンスである。この図２７に示す例では，端末１を発信側，端末２を着信側として，端末１の操作者が電話発信する際の発信から通話中までの動作シーケンスを説明する。電話操作を行うには，電話通信機能を持つアプリケーションソフト（通信アプリという）が必要であり，端末１，端末２の両方が共に通信アプリが予め起動されているものとする。また，端末間で時刻情報を送受信して最新の通話者情報であるかを検出するもので，本発明の第２の原理構成に対応する。

【００７４】端末１の操作者は端末２に電話発信するため，通信アプリの発信画面で呼毎メッセージと端末２の電話番号を入力し（図２７のＳ１０），発信操作を行う（同Ｓ１１）。端末１は他２の電話番号からＩＰアドレス情報を入手するため，ゲートキーパに問い合わせに行き（図２７では図示省略），端末２のＩＰアドレス情報を入手する。ＩＰアドレス情報を入手後，端末１の通信アプリは端末２に対し，呼出しメッセージ（ＩＰパケット）を送信する（図２７のａ）。呼出しメッセージを受信した端末２の通信アプリはＡＣＫ信号を返信し（図２７のｂ），端末１に対して端末２の通話者情報の時刻情報を送信する（同ｃ）。ＡＣＫ信号を受信した端末１の通信アプリは相手端末が通話可能な状態であると認識し，端末２に対して端末１の通話者情報の時刻情報と呼毎メッセージを送信する（図２７のｄ）。通話者情報の時刻情報を受信した端末１，２は相手端末の通話者情報が自端末内に存在するかどうかを確認し，存在しなければ相手端末に通話者情報の送信を要求するＡＣＫメッセージを送信し（図２７のｅ），通話者情報が自端末内に存在していれば受信した時刻情報と自端末内に保持している通話者情報の時刻情報とを比較する（図２７のＳ１２，Ｓ２１）。比較した結果，受信した時刻情報の方が新しければ，相手端末に通話者情報の送信を要求するＡＣＫメッセージを送信し，受信した時刻情報が同じであれば，相手端末に通話者情報の送信が不要である旨を示すＡＣＫメッセージを送信する。ＡＣＫメッセージを受信した端末１，２はメッセージの内容に従い，自通話者情報の送信を行う。

【００７５】この図２７の例では，端末１は自通話者情報を端末２に送信せず，端末２のみが自通話者情報を端末１に送信している（図２７のｇ）。自端末に保持されている端末１の通話者情報が最新であることを確認した端末２はディスプレイ上に端末１の通話者情報と共に，着信表示を行い（図２７のＳ２３），端末１に対し呼出し中メッセージを送信する（図２７のｈ）。

【００７６】端末２の通話者情報及び呼出し中メッセージを受信した端末１はディスプレイ上に端末２の通話者

情報と共に，呼出し中表示を行う（図２７のＳ１６）。端末２の通信アプリが入力部の操作による応答操作を検出すると（図２７のＳ２６），端末１に対し応答メッセージを送信し（図２７のｉ），ディスプレイ上に通話中を表示する（図２７のＳ２７）。同時に，音声制御カードの通話回路を起動し，ハンドセットの入出力を有効にし，ハンドセットからの入力音声情報をコーデック（ＣＯＤＥＣ：符号器・復号器）でディジタル信号に変換した後，端末１のアドレス宛ての音声ＩＰパケットにデータを乗せてＩ／Ｏバス経由でＬＡＮカードに送信し，端末１への送信を開始すると共に，端末１から受信した音声ＩＰパケットから音声データを抽出し，ＣＯＤＥＣでアナログ信号に変換した後，ハンドセットに送信する。この動作により音声通信が開始される。端末２から応答メッセージを受信した端末１はディスプレイ上に通話中を表示し，端末２と同様な手順で通話中自端末となる。

【００７７】次に図２８は発信から応答メッセージの送受信（本発明の第４の原理構成）による途中放棄までの端末間の動作シーケンスである。この図２８の例でも，上記図２７と同様に端末１を発信側，端末２を着信側とし，上記図２７とはａ～ｈのシーケンスまでが同じである。この後，端末２において上記図２５のＢ．に示すような着信応答メッセージ（例えば，「手が離せないのであとでかけ直します」というメッセージ）の送信操作を行うと（図２８のＳ２６及びｉ），端末１で着信応答メッセージを表示する（同Ｓ１７）。このメッセージを見て発信側の端末１の通話者が通話を途中放棄すると（同Ｓ１８），切断のメッセージが端末２へ送信され（同ｊ），これを受け取った端末２は着信停止を行い（同Ｓ２７），端末１に対して切断のメッセージを送信する（同ｋ）。

【００７８】図２９は２者通話中に第３の端末からの着信が発生した場合の動作シーケンスであり，本発明の第７の原理構成に対応する。この例では，端末１と端末２の間で通話中に端末３から端末２への呼出しが発生して，通話者情報の送受信のシーケンスが図に示すように実行され，端末２と端末３との通話に切替操作が行われて，端末１を保留にする。その後，端末３と端末２間の通話をへて，端末２から端末３に対し切断操作が行われ，端末１に対する保留が解除されるシーケンスが実行される。

【００７９】図３０は通話者情報を格納したデータベース更新の動作シーケンスであり，上記本発明の第６の原理構成に対応する。

【００８０】端末１から端末２へ通話者情報を送信した時，端末２に格納された端末１の通話者情報が更新された場合である。端末２はこの更新によりデータベースのアドレスを付して発信して端末１の通話者情報についてその時刻情報（更新時刻）を問い合わせると，データベースで情報検索が行われ，問い合わされた時刻情報の方

【図２２】第7の原理構成による通話中端末の新規着信の処理フロー（その2）を示す図である。

【図２３】第7の原理構成による被保留端末の処理フローを示す図である。

【図２４】端末のアプリケーションソフトと通話者情報管理テーブルの実施例を示す図である。

【図２５】通話者情報の表示例と着信応答メッセージの入力画面の例を示す図である。

【図２６】共有電話帳データベース操作時の端末の表示例を示す図である。

【図２７】本発明による発信から通話中までの動作シーケンスを示す図である。

【図２８】発信から応答メッセージの送受信による途中放棄までの端末間の動作シーケンスを示す図である。

【図２９】2者通話中に第3の端末からの着信が発生した場合の動作シーケンスを示す図である。

【図３０】通話者情報を格納したデータベース更新の動作シーケンスを示す図である。

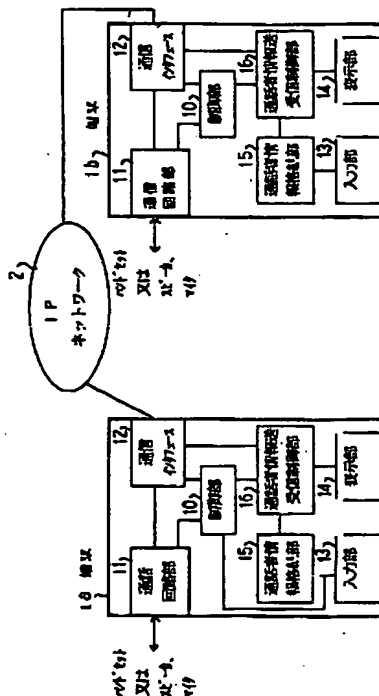【図３１】通話者情報問合せ時の通信端末とデータベース間の動作シーケンスを示す図である。

【図３２】従来例1の構成を示す図である。

【図３３】従来例2の構成を示す図である。

【符号の説明】

1a，1b　端末
10　　　　制御部
11　　　　通話回路部
12　　　　通信インタフェース
13　　　　入力部
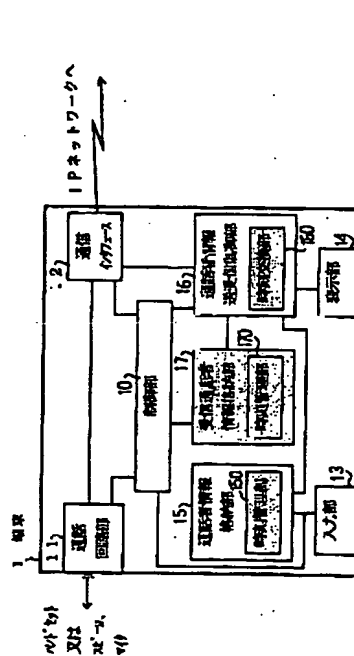14　　　　表示部
15　　　　通話者情報格納部
16　　　　通話者情報送受信制御部
2　　　　　ＩＰネットワーク
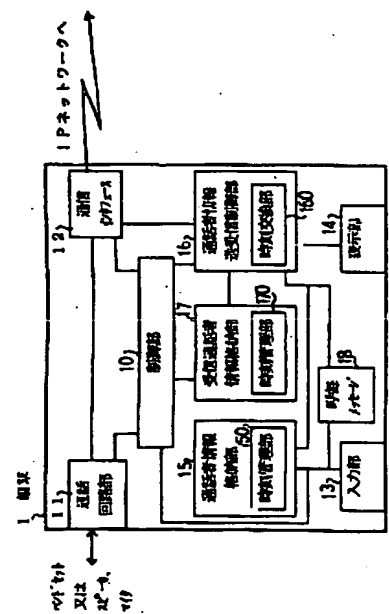
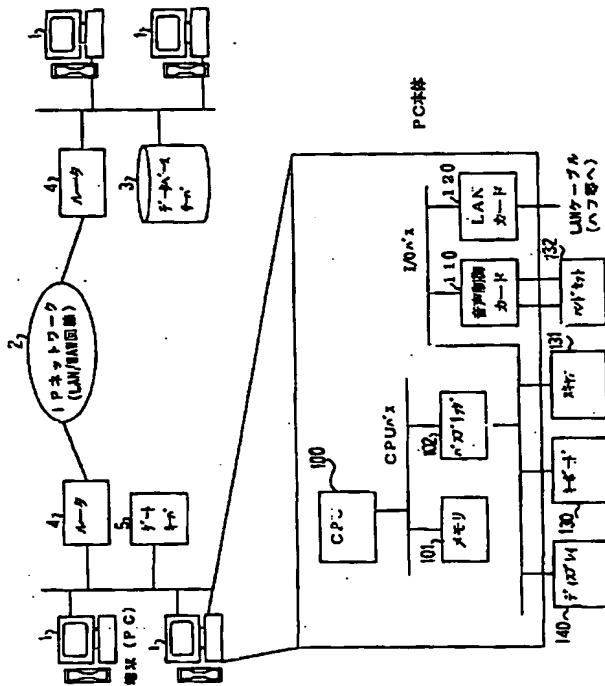【図１】　　　　　　　　　　【図２】　　　　　　　　　　【図３】
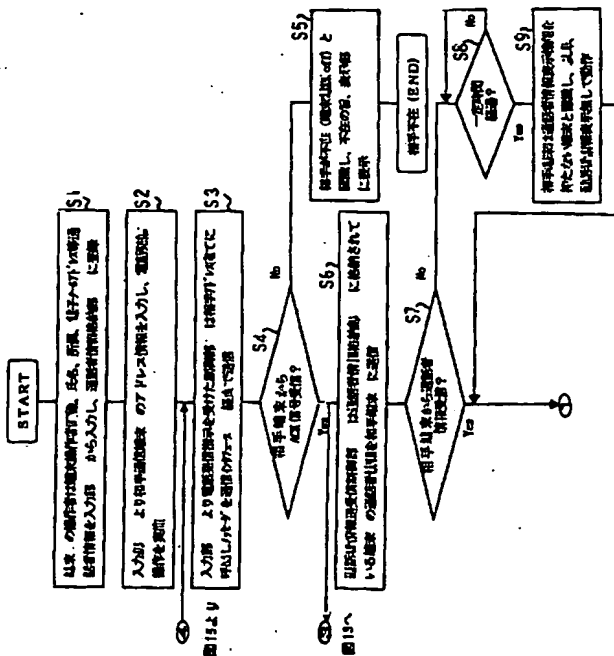

本発明の第1の原理構成

本発明の第2の原理構成

本発明の第3の原理構成

【図8】

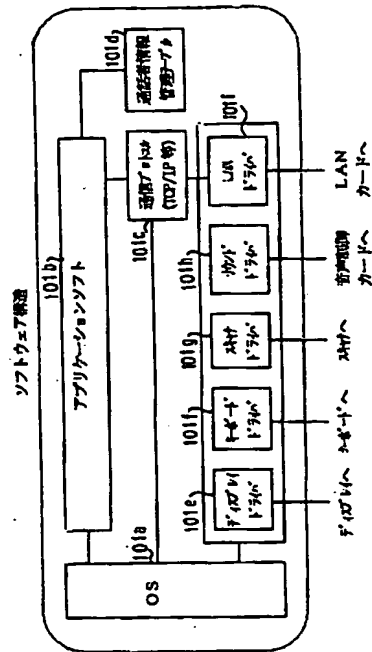本発明の実施例のシステム構成

【図9】

本発明によるソフトウェア構造

【図10】

第1の原理構成による発信側端末の
処理フロー（その1）

【図11】

第1の原理構成による発信側端末の
処理フロー（その2）

【図16】

第3の原理構成による着信側端末の処理フロー

START

S1 端末の操作者は通信設定作業画面、氏名、所属、電子ﾒｰﾙｱﾄﾞﾚｽ等正確な情報を入力部から入力し、通話者情報格納部に登録

S2 呼出しﾒｯｾｰｼﾞ受信？
- No
- Yes

S3 端末から応答ﾒｯｾｰｼﾞ受信？
- Yes
- No → 通話者情報の み表示

S5 通話者情報を表示する旨、呼出しﾒｯｾｰｼﾞを画面に表示

S4

図12へ

【図17】

第4の原理構成による発信側端末の処理フロー

図11より

S1 制御部は近隣の通話者端末に対し移動し、気付し、気付した相手端末の通話情報と共に呼出しﾒｯｾｰｼﾞを相手端末に送付し、呼出しﾒｯｾｰｼﾞをﾒﾓﾘに送出

S2 相手端末から出力ﾒｯｾｰｼﾞ受信？
- Yes
- No

S3 制御部は通話設定作業画面上のﾒﾓﾘに従い、気付した相手端末のPﾒｰﾙｱﾄﾞﾚｽｻﾞを送付し、応答ﾒｯｾｰｼﾞを相手端末に送付

S4 端末の操作者はﾒｯｾｰｼﾞに従い、処理を実行

S5 呼出し継続出力？
- No
- Yes → 音声電話通信成立

S6 相手端末から応答ﾒｯｾｰｼﾞ受信？
- No
- Yes

S7 制御部は通話中である旨を画面に表示し、通話回線をオンにし、音声の送受信を行う操作

音声電話通信成立中（END）

【図18】

第4の原理構成による着信側端末の処理フロー

図12より

S1 制御部は呼出しﾚﾌﾞﾊﾞｯｸﾞを発信者（端末1）宛てに送信し、通話者情報格納部に移行し、気付した相手端末の通話者情報と共に通話中である旨を画面に表示し、着信者を画面などにﾒｰﾙ送出

S2 制御部は応答ﾒｯｾｰｼﾞ／着信設定画面を送出し、画面に表示し、操作を受付

S3 着信応答ﾒｯｾｰｼﾞ選択？
- Yes
- No

S6 応答操作完了？
- Yes
- No

S4 制御部は送信された通話設定ﾒｯｾｰｼﾞを受信し、画面に表示

S5 呼出し継続中放送完了？
- No
- Yes → 音声電話通信成立（END）

S7 制御部は通話中である旨を画面表示に送出し、音声通話回線をオンにし、音声の送受信を行う操作に移行

音声通信成立中（END）

【図19】

第5の原理構成による発信側端末の処理フロー

START

S1 端末1の操作者は通信操作作業画面、氏名、所属、電子ﾒｰﾙｱﾄﾞﾚｽ等通話者情報をﾌｫｰﾏｯﾄ設定画面のﾌｫｰﾑに従い入力部から入力し、通話者情報格納部に登録

S2 入力部より相手先端末2のｱﾄﾞﾚｽ情報を入力し、電話発信操作を実行

S3 入力部より電話発信指示を受けた制御部は相手ｱﾄﾞﾚｽ宛てに呼出しﾒｯｾｰｼﾞを通信ﾈｯﾄﾜｰｸ、気付で送信

S4 相手からACK信号受信？
- No
- Yes

S5 相手が不在（日本は不在）と認識し、その旨、表示部に表示

相手不在（END）

S6 通話者情報送付指示情報は通話者情報格納部に格納されている端末1の通話者情報をﾌｫｰﾏｯﾄの項目を全て行う画面と共に相手端末2に送信

S7 相手ﾌﾞﾛｯｸから応答受信？
- Yes
- No

S8 一定時間経過？
- No
- Yes

S9 相手端末2と認証者情報会議画面は、持たない端末と認識し、氏名、通信者情報を表示して動作

図11へ

【図24】

端末のアプリケーションソフトと
通話者情報管理テーブルの実施例

【図25】

通話者情報の表示例と着信応答
メッセージの入力画面の例

A.

B.

【図27】

本発明による発信から通話中までの
動作シーケンス

【図28】

発信から応答メッセージの送受信による
途中放棄までの端末間の動作シーケンス

【図31】

通話者情報問合せ時の通信端末と
データベース間の動作シーケンス

【図32】

従来例1の構成

【図33】

従来例2の構成

SYSTEM FOR DISPLAYING SPEAKER INFORMATION AND RECORDING MEDIUM

Patent number:	JP2001186240
Publication date:	2001-07-06
Inventor:	MATSUMOTO SHOJI; YAZAWA SHIGEHIKO
Applicant:	FUJITSU LTD

Classification:

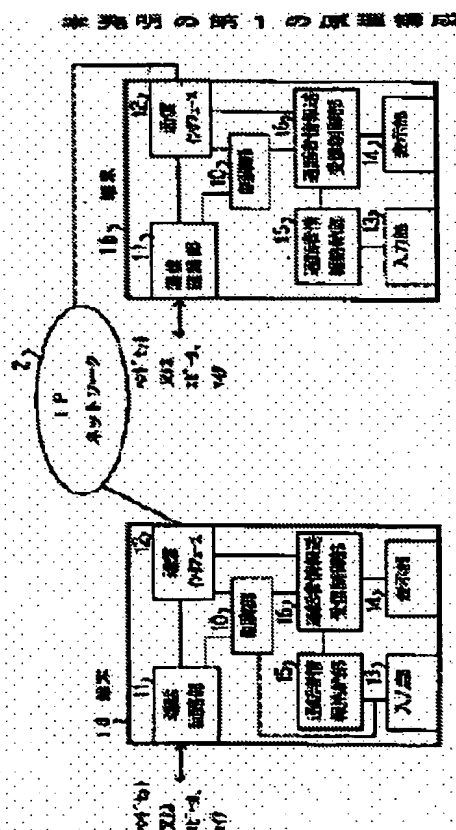|	
- international:	H04M1/57; H04L12/28; H04M1/00; H04M3/42; H04M11/06
- european:	H04M15/06
Application number:	JP19990369240 19991227
Priority number(s):	JP19990369240 19991227

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Report a data error he

Abstract of JP2001186240

PROBLEM TO BE SOLVED: To facilitate the registration/update of speaker information and also to enable caller/receiver information to be simultaneously displayed by using a speaker information display system and a recording medium in a communication system capable of performing voice communication and data communication between a plurality of terminals through a network by an Internet protocol. SOLUTION: Each terminal is preliminarily and respectively provided with a speaker information storing part storing the speaker information of a self-terminal, an inputting part inputting the speaker information, a displaying part displaying the speaker information, a speech communication circuit part controlling voice communication and a speaker information transmission and reception controlling part controlling the transmission and reception of the speaker information when the speaker information is transmitted and received. The speaker information is mutually transferred between a calling side terminal and a receiving side terminal when calling and receiving is performed by voice communication to/from the opposite terminal, and the information of the opposite communication speaker is displayed on the displaying parts of the both terminals of the caller and the receiver at the same time with the calling or incoming call display.

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CLAIMS

[Claim(s)]
[Claim 1] In the communication system which can perform voice communication and data communication among two or more terminals through the network by Internet Protocol The message person information storing section which stores the message person information in the end of a local in each terminal beforehand, respectively, The input section which inputs message person information, and the display which displays message person information, Prepare the speaking circuit section which controls voice communication, and the message person information transmit/receive control section which controls transmission and reception of message person information at the time of sending and receiving, and message person information is mutually transmitted between an origination-side terminal and a destination-side terminal at the time of ** and arrival by voice communication with a partner terminal. The message person information-display method characterized by displaying a message partner's information on the display of the terminal of the both sides of an addresser and an action addressee at a call, or an arrival-of-the-mail display and coincidence.
[Claim 2] The reception message person information storing section which stores the message person information received from the message partner in the terminal in claim 1, The time-of-day-control section which manages the modification time of the received message person information and the message person information in the end of a local, Only when the time of day received from the partner terminal when the time-of-day exchange section which transmits and receives time of day of the message person information held before transmission and reception in the end of a local was prepared and a message partner's message person information was held in the end of a local is newer than the time of day held in the end of a local, message person information is acquired from a partner terminal. The message person information-display method characterized by what is displayed.
[Claim 3] It is the message person information-display method which sets they to be [any of claims 1 or 2], prepares the message storing section the whole call which stores the message which you want to display at a partner terminal in a terminal at the time of the arrival to a partner terminal, and is characterized by what is displayed on the display of a partner terminal with said message person information when the contents of the message storing section call a partner terminal by dispatch to a partner terminal said whole call.
[Claim 4] The message person information-display method characterized by to set they to be [any of claims 1 or 2], to prepare the arrival-of-the-mail response message storing section which stores the message which wants to transmit to these terminals of other at the time of the arrival from other terminals into a terminal, to display the contents of said arrival-of-the-mail response message storing section at the time of the arrival from other terminals, and to transmit an arrival-of-the-mail response message to an origination side according to the input of response directions to the contents of a display.
[Claim 5] The message person information-display method characterized by transmitting only the contents information on said format and performing presenting of message person information based on said specified format when preparing the message person information format convention section which specifies a format of message person information in a terminal in claim 1 and transmitting message

person information to a message partner.

[Claim 6] In claim 5 on said network message person information A database server sharable by two or more terminals Prepare, prepare in a terminal the server address storing section which manages the address information of said database server, and each terminal transmits the message person information updated at the time of renewal of message person information to said database server. The message person information-display method characterized by updating the contents of said database server and searching said database server about the message person information which needs each terminal.

[Claim 7] If the message change section which changes a message partner into a terminal, and the tone-on-hold transmitting section which sends out tone on hold to a hand set are prepared in claim 1 and one terminal under message has arrival of the mail from the 3rd terminal While displaying the message which asks whether perform a message change with the message person information on this 3rd terminal on the display of one [said] terminal, driving said message change section by the directions input of a message change and changing a message partner The message person information-display method characterized by transmitting tone on hold from said tone-on-hold transmitting section to the end of an other end which is the message partner till then.

[Claim 8] By computer which is connected to the network by Internet Protocol and performs voice communication and data communication among other terminals It is the record medium which recorded the control program of the terminal controlled. Said program Hold the message person information in the end of a local, and said network is received at the time of ** and arrival by voice communication. If the control signal for making connection with the partner by Internet Protocol is transmitted and received and connection between an origination-side terminal and a destination-side terminal is made The record medium which makes message person information receive from a partner terminal while transmitting against said message person information in the end of a local, and displays message person information on the display within a terminal and in which computer reading is possible.

[Translation done.]

* NOTICES *

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Field of the Invention] This invention relates to the message person information-display method and record medium in the communication system which can perform voice and data communication to coincidence among two or more message terminals.
[0002] In recent years, by the spread of the Internet/intranets, speech information is unified to IP (Internet Protocol) information, and the needs which perform voice communication (telephone) via IP network are increasing. It is LAN (Local Area Network), using a personal computer (PC) as a terminal in response to these needs. Telephoning via the Internet is possible with the advent of a VoIP (Voice over IP) technique. It is possible to change speech information into an IP packet with a VoIP technique, and to talk over the telephone on IP network, and after acquiring from the server called a gatekeeper in IP address information from identification information, such as the telephone number of the communications-partner point, and performing a partner terminal and a communication link configuration procedure, it is possible to transmit and receive voice data between direct partner terminals, and to perform voice communication.
[0003] Furthermore, with a VoIP technique, since speech information is changed into an IP packet and it communicates, if a communication line was not always occupied and the band of a communication line is vacant also as for under one voice communication, other messages can be received or it can talk over the telephone. For example, the Net speed at the time of performing IP packet communication, such as WWW access, using the telephone line can be communicated to 56Kbps(es) per 1 telephone line now depending on the Net speed of the modem to be used. on the other hand -- since the band used by one message of VoIP can be pressed down to 10 - 20Kbps extent -- per [2] telephone line - 4 message ****
-- things become possible. Moreover, in the case of telephone arrival, for discernment of a message partner, the identifier of the telephone number or an addresser of the needs which display addresser information on a called terminal etc. is stronger than before before a response, and various approaches are proposed.
[0004]
[Description of the Prior Art] Drawing 32 shows the configuration of the conventional example 1, and drawing 33 shows the configuration of the conventional example 2.
[0005] The conventional example 1 of drawing 32 is a technique which forms the database which concentrated and stored the information of addressers, such as an image, and is displayed on the personal computer corresponding to each telephone, for example, is indicated by JP,11-88496,A. The addresser information storing database formed as opposed to the addresser number receiving set in order that 80 might carry out [as opposed to / in the subscriber line exchange and 81 / many telephones] the centralized control of 82 in drawing 32 R> 2, the telephone with which much 83 was prepared, and 84 are PCs (personal computer) prepared corresponding to each telephone 83. In this conventional example 1, if the addresser number receiving set 81 receives the telephone number of ******** which will be sent from the subscriber line exchange 80 at the time of arrival of the mail if the telephone 83 of the

subscriber line exchange 80 has arrival of the mail, while displaying that number on a display (illustration abbreviation), it sends to the addresser information storing database 82. In the addresser information storing database 82, the data retrieval section searches a database using the telephone number of ********, and the searched data (the image and data about an originating subscriber) are transmitted to PC84 corresponding to the telephone 83 which arrival of the mail generated through the communications control section, and it displays on the display of PC84. Also when carrying out call origination of the addresser information storing database 82 from one telephone 83, it is specifying a partner's identifier, and also when the corresponding telephone number is searched and a dial automates, it is used. At this time, the various information (image data is included) about the searched partner can be displayed on the display of PC84 corresponding to the telephone 83 which performed call origination.

[0006] Next, the configuration of the conventional example 2 shown in drawing 33 is a technique which builds the database of addresser information in a communication terminal equipped with a telephone function, for example, is indicated by JP,6-121302,A. The communication network where 85 were equipped with the telephone-exchange function, the communication terminal which 86 equipped with the telephone function, and 87 are the hand sets containing a telephone transmitter and an earphone among drawing. In the communication terminal 86, it has the input section 865 for storing the display 864 and addresser information for displaying the communications control section 860, the speaking circuit section 861, the addresser number retrieval section 862, the addresser information database 863, and addresser information.

[0007] If the case of this conventional example 2 also has arrival of the mail in a communication terminal 86, the addresser information database 863 is searched using the addresser number contained in arrival-of-the-mail information, the information beforehand stored including an addresser's image is displayed on a display 864, and before answering, the knowledge about an addresser will be offered. In addition, when sending from this communication terminal 86 by the configuration of this conventional example 2, an addresser's dynamic image can also be transmitted to an arrival-of-the-mail place on real time by using a camera as the static image beforehand stored in the addresser information database 863, or the input section 865.

[0008] Moreover, as described above, the VoIP (Voice over IP) technique which uses a personal computer (PC) as a terminal for speech information, and telephones by LAN (Local Area Network), intranet, the Internet, etc. appeared, speech information was changed into IP (IP in TCP/IP: Internet Protocol) packet, and it became possible to talk over the telephone on IP network.

[0009] About the technique of IP telephone by VoIP, the specification is advised by ITU-T (International Telecommunications Union telecommunication standardization section) as H.323 (criterion about the voice and the video communication link on a non-guaranteeing mold network). There are a coding technique of changing analog voice into digital one, a packet-ized technique of putting the encoded voice data on an IP packet, a "call setup processing" technique of investigating the phase hand telephone number which telephone sends out, and deciding the optimal path, etc. in these standard specifications. After acquiring identification information, such as the telephone number of the communications-partner point, to IP address information from the server called a gatekeeper in call setup processing and performing a partner terminal and a communication link configuration procedure, it is possible to transmit and receive voice data between direct partner terminals, and to perform voice communication. In addition, H.245 (criterion of the protocol of a control message) by the same ITU-T and H.450 (criterion about supplementary services, such as a hold and a transfer) are advised.

[0010]
[Problem(s) to be Solved by the Invention] Although there was a case where he wanted to know the information on an action addressee, in the case where telling an addresser the information on an action addressee was not taken into consideration, for example, a message is received at other arrival-of-the-mail places by transfer etc. in an arrival-of-the-mail place although it was possible to have told an addresser's information to an action addressee, implementation was difficult with the conventional technique.

[0011] Moreover, with the technique of the above-mentioned conventional example 2, when operator information was updated, since operator information was in each terminal, each terminal-handling person needed to update information and it had taken time and effort considerably. Furthermore, since the newest information will not be displayed if updating is neglected, the frequent updating activity is demanded.

[0012] Furthermore, since information was transmitted to the called terminal and information was displayed on the terminal after it searched the database with the technique of the above-mentioned conventional example 1 after the exchange received the addresser number at the time of arrival of the mail, since the centralized control of the database was carried out to two or more terminals, and information was found, there was a problem of taking time amount from arrival of the mail to an information display.

[0013] Moreover, in the conventional telephony, since that was not told by the partner also when I want you to come out immediately at the time of telephone dispatch, since it is urgent requirements, there was a demand of wanting to tell the message for every calls, such as an urgency of a telephone, to an action addressee. Furthermore, since it will be necessary to answer a telephone in order to tell an addresser the contents, such as applying again later, and an activity will be interrupted also when not appearing in a telephone at the time of telephone arrival, since an action addressee is busy, there was a demand of wanting to transmit a message to an addresser after a check of a dispatch partner by easy actuation at the time of arrival of the mail.

[0014] On the other hand, in order to use it with applications, such as a share telephone directory, the problem which great time and effort cuts was in registration/updating activity of message person information to share message person information between two or more men. Moreover, although the service which answers was offered as interruption service and a function of PBX during the message of a public telephone network to the telephone arrival at the time during the message, during the message, addresser information was able to be displayed also at the time of the telephone arrival at the time, a message partner could not be checked, and determining the change necessity of a call by the message partner was not able to realize.

[0015] This invention the above-mentioned problem It is solvable, and the registration/renewal of message person information are easy, and it is possible to display dispatch / action-addressee information on coincidence, the time amount from submission operation to an information display can be shortened, the message about a telephone can be told from an addresser, and an addresser is received from an action addressee at the time of arrival of the mail. A message The newest information which transmitted or was received The message information display which addresser information is further displayed also at the time of busy for the purpose of offering the message person information display which makes registration possible automatically at a share database, and can reduce the time and effort of renewal of share database information, and can change a call if needed It aims at providing. Moreover, it aims at offering the message information-display method and record medium which realize each aforementioned function.

[0016]
[Means for Solving the Problem] This invention is communicating / exchanging the message person information which uses the voice/data broadcast function to the same partner whom a VoIP technique's has, and holds / manages terminal-handling person information within the terminal of each dispatch / arrival, and each holds within the call offering procedure at the time of telephone communication initiation, delivers information and makes it possible to display on a terminal.

[0017] moreover, the control function of two or more calls which a VoIP technique has -- using it -- a terminal -- under a message -- even when -- the message person information on a new incoming call is displayed on a called terminal, and it makes it possible to receive arrival of the mail.

[0018] Drawing 1 is drawing showing the 1st principle configuration of this invention. 1a and 1b are the terminals (or communication terminal) equipped with the message function among drawing, and the control section equipped with the information processing function by the program whose ten in each terminal 1a and 1b contains CPU, and 11 are connected with a hand set or a loudspeaker, a microphone,

etc. by CODEC (a sign and decoder) While performing an analog and a digital interconversion Audio (digital) packet-izing / depacketizing-ization The transmit/receive control function to include The display as which the speaking circuit section which it had, the IP network 2 which 12 mentions later, and the communication interface transmitted and received and 13 display the input section, and 14 displays message person information etc., the message person information storing section in which 15 stores the message person information in the end of a local, and 16 mind a communication interface 12 for message person information. It is the message person information transmit/receive control section transmitted and received. 2 is IP networks (network which performs communications control of a network layer by Internet Protocol), such as LAN which also performs telephone communication by VoIP, intranet, and the Internet, while performing data communication using an IP address.

[0019] An outline of operation is explained to drawing 1 , functional block for this invention realizing a message person information display using a VoIP technique being shown, and using origination-side and terminal 1b as a destination side for terminal 1a. The user of Terminals 1a and 1b stores information including his name in the message person information storing section 15 from each input section 13 beforehand, and if the user of terminal 1a specifies and sends a phase hand, he will transmit a call message to the IP network 2 from a communication interface 12 by control of a control section 10. If this is received by partner terminal 1b, a call of the user of delivery and terminal 1b will be sent to an origination side, and the message person information on the message person information storing section 15 will be sent for the message showing reception to an origination side with ****. When the message of reception is received by terminal 1a of an origination side, while a control section 10 makes its message person information stored in the message person information storing section 15 transmit, if the message person information from a partner is received, the message person information and partner terminal 1b will call to a display 14, and it will indicate that it is in an inner condition. If the user information on terminal 1a of an origination side is seen by partner terminal 1b and a user answers, the response message will be sent to origination-side terminal 1a, and the voice communication by the packet of VoIP will be started through the speaking circuit section 11 and a communication interface 12.

[0020] In the 1st principle configuration shown in drawing 1 , Terminals 1a and 1b equip the memory in a control section 10 with the program and data for performing the above-mentioned control, and show the detailed flow of a program to the configuration of the example mentioned later. As memory including such a program, not only RAM in which direct access is carried out by CPU but computers, such as a hard disk, ROM, a flexible disk, and CDROM, can constitute as various kinds of record media which can be read, and it can constitute also as a record medium built in the equipment which can be accessed through means of communications. The program and data for performing each control of each can be stored in the memory in a control section 10, and the terminal corresponding to each configuration shown in drawing 2 thru/or drawing 7 mentioned later can also constitute each as a record medium. The processing flow of the program is shown in the configuration of the example mentioned later.

[0021] Since its message person information displayed on the terminal of a communications partner is stored by communication system including the terminal of this 1st principle configuration in the end of a local Since it not only transmits an addresser's message person information to a destination side, but it can perform renewal of informational from the input section 13 in the end of a local and the message person information on an action addressee is transmitted to an origination side in a communication link establishment procedure It enables an addresser and an action addressee to display a partner's newest information on a terminal at the time of arrival/calling indicator.

[0022] Drawing 2 is drawing showing the 2nd principle configuration of this invention, and among drawing, one expresses a terminal and corresponds to 1a and 1b of drawing 1 . The signs 10-16 within a terminal 1 are the same as each part of the same sign of drawing 1 , and omit explanation. A different part from drawing 1 The message person information received from the partner terminal shown by 17 The reception message person information storing section to store It prepares. The information of the message person in the end of a local In the message person information storing section 15 to store, the

modification time of message person information (Time) The time-of-day exchange section 160 forms the shown time-of-day-control section 150 and the time-of-day-control section 170 which stores the updating time of the message person information received from the partner terminal in the reception message person information storing section 17, and transmit and receive the time-of-day (modification time) time of message person information with a communications partner in the message person information transmit/receive control section 16 It is the established point.

[0023] In drawing 2 , when the user of each terminal 1 updates message person information from the input section 13 in the end of a local on the assumption that the message person information from the partner terminal which communicated before is stored in the reception message person information storing section 17 (the first registration is also included) and the modification time is also inputted, it is stored in the time-of-day-control section 150. When it sends to other terminals, a partner terminal moreover, a call message When it receives, the modification time of the time-of-day-control section 150 It transmits to an origination side. The terminal of an origination side this When the modification time received this time is newer than the stored modification time as compared with the modification time received before relating with the partner terminal stored in the time-of-day-control section 170 in the reception message person information storing section 17, when received, the message person information transmit/receive control section 16 is received. To a partner terminal message person information The message to demand is made to transmit, if as the modification time received before, it is not necessary to receive message person information anew, and control which displays the message person information received before is performed. In addition, if the message person information on a partner terminal has not received before, message person information will be required. Moreover, while the terminal of an origination side is comparing modification time of a destination-side terminal, it also sets to the other party terminal of an arrival-of-the-mail place. By comparing with the modification time received before in the time-of-day-control section 170 of the reception message person information storing section 17, if modification time is received from an origination-side terminal When the same, the message person information which received before and was stored in the reception message person information storing section 17 is displayed, and when the received modification time is newer, control which requires new message person information of an origination-side terminal is performed.

[0024] Only when the time information which only the time information (updating time) of message person information is exchanged between dispatch/called terminal, and a partner's message person information is not probably stored within the end of a local by this at the time of communication link establishment, or is stored is older, transmission of message person information Since it requires, the traffic between dispatch/called terminal can be reduced, and time amount required for informational delivery can be shortened.

[0025] Drawing 3 is drawing showing the 3rd principle configuration of this invention, and among drawing, signs 1, 10-17 are the same as each part of the same sign of above-mentioned drawing 2 , and omit explanation. A different part from drawing 2 is the point of having prepared the message storing section the whole call shown by 18, and this is a means to store a message the call whole to transmit before a partner answers to a communications partner for every originating call.

[0026] In drawing 3 , the message person of an origination side is stored in the message storing section 18 the whole call, when carrying out submission operation, and a message is inputted from the input section 13 the whole call for telling an urgency and business. The message stored in the message storing section 18 the whole call is transmitted to a partner terminal in a communication link establishment procedure. At the partner terminal which received the message the whole call, a message is displayed on a display 14 the whole call which received with message person information.

[0027] Thereby, before answering from an origination-side terminal to the message person of a destination side, the urgency and business of a message can be told.

[0028] Drawing 4 is drawing showing the 4th principle configuration of this invention, and among drawing, signs 1, 10-18 are the same as each part of the same sign of above-mentioned drawing 3 , and omit explanation. A different part from drawing 3 is the point of having prepared the arrival-of-the-mail response message storing section shown by 19.

[0029] In preparation for the situation which cannot answer immediately, because store beforehand in the arrival-of-the-mail response message storing section 19 of drawing 4 the message which expresses two or more reasons of "being unable to lift a hand now" at the time of arrival of the mail and a user operates the input section 13 at the time of arrival of the mail those messages It displays on a menu/carbon button, and if selection is made from the inside, it will be transmitted to a master station side as an arrival-of-the-mail response message, and the message will be displayed on the display 14 of an origination-side terminal.

[0030] Thereby, when it cannot answer immediately at the time of arrival of the mail and cannot talk over the telephone at it, an addresser can be notified of a reason (situation) by easy actuation.

[0031] Drawing 5 is drawing showing the 5th principle configuration of this invention, and among drawing, signs 1, 10-18 are the same as each part of the same sign of above-mentioned drawing 3 , and omit explanation. A different part from drawing 3 is the point of having prepared the message person information format convention section shown by 20. This specifies the format when displaying at the time at which message person information is inputted.

[0032] In drawing 5 , when the user of a terminal inputs message person information and various kinds of message person information, such as a name and affiliation, is inputted, the information on each item is stored in the message person information storing section 15 according to the format specified in the message person information format convention section 20, and a format is unified between each terminal. And when transmitting message person information at the time of dispatch/arrival, only the information which shows the identifier which shows each item according to a format, and its contents is transmitted.

[0033] This reduces the amount of information in the case of transmitting message person information, information transfer time amount is reduced, and it becomes possible to shorten the time amount from submission operation to an information display.

[0034] Drawing 6 is drawing showing the 6th principle configuration of this invention. Share telephone directory database system is shown in this 6th principle configuration. although the terminal of a destination side and 2 is [1a of the terminal of an origination side and 1b] IP networks among drawing and the illustration abbreviation of a part of interior of Terminals 1a and 1b is carried out -- above-mentioned drawing 5 (it has the message person information format convention section 20 in a terminal) -- the same -- sign 10- it has each part expressed with 18 and 20. The point which is different from above-mentioned drawing 5 is a point which newly formed the database server 3 in IP network, and added the server address storing section 21 between the communication interface 12 of terminal 1a (the same is said of the 1b), and the message person information transmit/receive control section 16. In a database server 3, 30 is the communications control section and the database with which the renewal section of data and 32 stored the data retrieval section, and, as for 31, 33 stored the message person information on each terminal.

[0035] In the system of drawing 6 , if the shared database server 3 is called from a communication interface 12 using the server address beforehand stored in the server address storing section 21 by setup etc. when the message person information stored in each terminal was updated and message person information is transmitted, the renewal section 31 of data will be started from the communications control section 30, and a database 33 will be updated. This database becomes possible [always sharing the newest message person information between each terminal], and becomes usable at applications, such as a share telephone directory and message person retrieval. Moreover, since the format of the message person information stored is unified, retrieval by the data retrieval section 32 is attained by using information as a key.

[0036] Drawing 7 shows the 7th principle configuration of this invention. Among drawing, one expresses a terminal and corresponds to 1a and 1b of drawing 1 . The signs 10-16 within a terminal 1 are the same as each part of the same sign of drawing 1 , and omit explanation. A different part from drawing 1 is the point of having prepared the message change section of 22, and the tone-on-hold transmitting section of 23 in the terminal 1.

[0037] If the call message under message is received from the 3rd terminal while the user of a terminal 1

is doing 2 person messages among other terminals through the communication interface 12, message person information is transmitted and received like the time of new arrival reception, it will be received by control of the message information transmit/receive control section 16, and a new arrival partner's message person information will display on the display 14 of the terminal under message. When displaying the message person information on the 3rd terminal on a display 14, if the message which stimulates the change existence of the message to the 3rd terminal is displayed and there is an input of change directions, it will change to voice communication (communication link by the packetized voice of VoIP) with the 3rd terminal by changing the message change section 22. At this time, a message held is transmitted to the partner who was talking over the telephone till then. At the partner terminal which received the message held, while driving the tone-on-hold transmitting section 23, sending out tone on hold to the speaking circuit section 11 and generating tone on hold from a hand set or a loudspeaker, sending out of the packetized voice from a communication interface 12 to IP network is stopped.
[0038]
[Embodiment of the Invention] 1 in which more than one were prepared among drawing in which drawing 8 shows the system configuration of the example of this invention is the terminal which was connected to LAN and equipped with the telephone function, and the personal computer (PC1 expresses) equipped with the hardware which expands to the lower part of drawing 8 and is shown can constitute the interior. CPU and 101 100 in PC1 Namely, memory (RAM and ROM are included), 102 a CPU bus and an I/O bus It connects with other terminals and other LANs the bus bridge to connect, the voice control card which performs digital conversion and inverse transformation for analog voice by connecting 110 with a hand set, and 120 mind another terminal, and the router and network in LAN to which the terminal concerned belongs. It is the LAN card which performs control which transmits a packet (a packetized voice is included). Furthermore, the scanner with which two or more input/output equipment is connected to the body of PC, and 140 is used in order that a display and 130 may input a keyboard and 131 may input a message person's image as message person information, and 132 are hand sets (headset for a telephone).
[0039] The memory 101 of the body of PC of drawing 8 is equipped with the software for realizing this invention with OS (operating system), and the software structure by this invention is shown in drawing 9 . Communications protocols, such as TCP/IP which performs communications control for the voice communication application software for 101a to realize various kinds of control about OS and the message person information according [101b] to this invention and 101c minded LAN and IP network in drawing 9 , 101d each message person information The stored message person information management table, the display driver which is the program which controls the display 140 on which 101e is shown in above-mentioned drawing 8 , the keyboard driver which controls the 101f of the above-mentioned keyboards 130, and 101g a scanner 131 The scanner driver to control, the sound driver which controls the 101h of the above-mentioned voice control cards 110, and 101i are LAN drivers which control the above-mentioned LAN card 120.
[0040] The message person information-display function by this invention is built in application software (program). Each principle configuration of this invention for PC to realize with the combination of hardware and software Communications protocol 101c which it realizes, and the speaking circuit section 11 shown in above-mentioned drawing 1 thru/or drawing 7 R> 7 corresponds to the voice control card 110 and sound driver 101h shown in drawing 8 and drawing 9 , and shows a communication interface 12 to drawing 8 and drawing 9 , the LAN card 120 It corresponds to LAN driver 101i. The input section 13 And drawing 8 , Corresponding to keyboard driver 101f, a keyboard 130, and scanner driver 101g and the scanner 131 that are shown in drawing 9 , a display 14 corresponds to display driver 101e and the display 140 which are shown in drawing 8 and drawing 9 . In addition, although the scanner is used for an image information input in this example, it is also possible to use image files, such as JPEG.
[0041] In the system shown in above-mentioned drawing 8 , a processing flow for the terminal equipped with the configuration shown in drawing 8 and drawing 9 to realize each control corresponding to the above 1st thru/or each 7th principle configuration is shown in drawing 10 thru/or drawing 23 . In

addition, this processing flow describes using the name of functional block shown in <u>drawing 1</u> thru/or <u>drawing 7</u> .

[0042] <u>Drawing 10</u> - <u>drawing 12</u> show the processing flow of the voice communication establishment by the 1st principle configuration (refer to <u>drawing 1</u>) of a terminal, <u>drawing 10</u> and <u>drawing 11</u> are the processing flow (the 1) of the origination-side terminal by the 1st principle configuration, and (its 2), and <u>drawing 12</u> is the processing flow of the destination-side terminal by the 1st principle configuration.

[0043] if it will register with the message person information storing section (15 of <u>drawing 1</u>) if it outlines about <u>drawing 10</u> and the origination-side terminal of <u>drawing 11</u> and the operator of an origination-side terminal will input an image, a name, etc. from the input section (S1 of <u>drawing 10</u>), and the address information of a partner communication terminal is inputted from the input section and telephone submission operation is performed (said -- S2), it will call to the partner address and a message will be transmitted via a communication interface (12 of <u>drawing 1</u>) (said -- S3). Then, whether the ACK signal (signal showing a receptionist) was received from the partner terminal, when not distinguishing and (S4 of <u>drawing 10</u>) receiving, and when a partner -- when it displays on a display (14 of <u>drawing 1</u>) as absent, it ends (S5 of <u>drawing 10</u>) and it receives, the message person information transmit/receive control section transmits the message person information on the terminal stored in the message person information storing section to a partner terminal (said -- S6).

[0044] then, it waits whether to have received message person information from the partner terminal, and to carry out fixed time amount progress, if it does not distinguish and (S7 of <u>drawing 10</u>) receive (said -- S8), and a partner terminal operates without presenting of message person information henceforth without a message person information-display function -- making (this S9) . an indication in a call is given with the message person information on the partner terminal received in the message person information transmit/receive control section (16 of <u>drawing 1</u>) when it distinguished whether it next called from the partner terminal and the inside message was received when message person information was received from the partner terminal (S10 of <u>drawing 11</u>) and received, and a sound (ring back tone) is sent out during a call at a terminal hand set or a loudspeaker (said -- S11). Then, voice communication is established by whether the response message was received from the partner terminal, and the thing (13 of <u>drawing 11</u>) it is directed that under a message will be displayed on a display if it distinguishes and (S12 of <u>drawing 11</u>) receives, a speaking circuit is turned ON to the speaking circuit section (11 of <u>drawing 1</u>), and transmits and receives voice.

[0045] If the operator of a destination-side terminal inputs his own image, a name, etc. like the above-mentioned origination-side terminal in the processing flow of the destination-side terminal shown in <u>drawing 12</u> , it will register with the message person information storing section (S1 of <u>drawing 12</u>). then, reception of the call message from an origination side -- waiting (said -- S2) -- if it receives, an ACK message will be transmitted to an origination side and it will transmit against the message person information on a destination side (said -- S3). if it does not receive even if it distinguishes and (S4 of <u>drawing 12</u>) carries out fixed time amount progress of whether message person information was received from an origination side after this (said -- S5), it will operate without a message person information display henceforth (said -- S6), and will shift to S7. when message person information is received, transmit the message in a call to an origination side, it is made to indicate that it is under arrival of the mail with the message person information on the partner terminal received to the message person information transmit/receive control section, and a ringer tone is sent out to a terminal loudspeaker (said -- S7). Then, it indicates whether response actuation by the operator was performed, and that it is under message if it distinguishes (S8 of <u>drawing 12</u>) and there is response actuation, and a speaking circuit is turned ON to the speaking circuit section, it points so that voice may be transmitted and received (this S9), and voice communication is established.

[0046] By thus, each processing flow of an origination-side terminal and a destination-side terminal shown in <u>drawing 10</u> , <u>drawing 11</u> , and <u>drawing 12</u> In a communication link establishment procedure, can transmit and display the message person information displayed on a partner, and the message person information on an action addressee by transmitting to an origination-side terminal it not only displays

the message person information by the side of an addresser on a destination-side terminal, but After the both sides of an addresser and an action addressee displayed a partner's message person information and identify a partner, it can talk over the telephone. Moreover, at this time, it can also choose so that it may not talk over the telephone by seeing a partner's message person information.

[0047] Drawing 13 and drawing 14 to S1 of the processing flow of the origination-side terminal by the 1st principle configuration which shows the processing flow of the voice communication establishment by the 2nd principle configuration (refer to drawing 2), and drawing 13 is the processing flow of the origination-side terminal by the 2nd principle configuration, and is shown in above-mentioned drawing 10 - S4 ** -- it is the same processing, as S4 to ** of drawing 10 shows, it branches, and it is constituted so that it may return from step S9 of the last shown in drawing 13 to S11 of drawing 11 in the path of **.

[0048] If it sends to a master station side by S1 of drawing 10 - S4 and the ACK signal from a partner terminal is received The time information of the message person information in the end of a local in the time-of-day-control section (150 of drawing 2) is transmitted to a partner terminal (S1 of drawing 13). It distinguishes whether the time information of the message person information from a destination-side terminal was received (said -- S2). when not receiving, if it distinguishes whether fixed time amount progress was carried out (said -- S3) and fixed time amount passes, a partner terminal will determine to operate henceforth as what is not equipped with the display function of message person information (this S4), and will shift to S11 of drawing 11 . moreover, when the time information of message person information is received from a destination-side terminal It distinguishes whether the message information concerned is in the reception message person information storing section (17 of drawing 2) (S5 of drawing 13). When there is nothing, shift to S8 mentioned later, when it is, compare the time information kept by the time-of-day-control section (170 of drawing 2) of the message person information concerned on the reception message person information storing section with the time information received this time, and it distinguishes whether the received time information is newer (S6 of drawing 13). when not new, it is decided that it will be the information which displays the message person information kept by the reception message person information storing section (said -- S7). When the receipt information is newer, as the message person information transmit/receive control section (16 of drawing 2) transmits message person information to a partner terminal, it transmits an information-requirements message (S8 of drawing 13), and if it supervises receiving message person information from a destination-side terminal (this S9) and receives, it will perform processing after shifting to processing of above-mentioned drawing 11 of S11.

[0049] Drawing 14 is the processing flow of the destination-side terminal by the 2nd principle.

[0050] If message person information is registered at the destination-side terminal of this 2nd principle in the end of a local like S1 and S2 of the processing flow (drawing 12) of the called terminal of the 1st principle of the above, reception of a call message is supervised and a call message is received The time information of the message person information in the end of a local in the time-of-day-control section of the message person information storing section (15 of drawing 2 R> 2) which stored the information of the message person in the end of a local is transmitted to a partner terminal (S3 of drawing 14), and it distinguishes whether the time information of message person information was received from a partner terminal (origination-side terminal) (this S4). If a partner terminal will operate as a thing without the display function of message person information if it does not receive even if it carries out fixed time amount progress of the time information (S5, S6 of drawing 14), and the time information of message person information is received from a master station It distinguishes whether it is in the reception message person information storing section (17 of drawing 2) in which the information which the message person information on the master station concerned received before was stored (R> 4 drawing 14 S7). the time information which shifted to the processing of S10 mentioned later when there was nothing, and was received when it was determines the message person information kept when not new as display information by distinguishing whether it is newer than the time information of the time-of-day-control section (170 of drawing 2) of the reception message person information storing section (said -- S8) (this S9). An information-requirements message is transmitted so that the message person

information transmit/receive control section may transmit message person information to a partner terminal, when the received time information is newer (S10 of drawing 14). reception of the message person information from a partner terminal is supervised (said -- S11), when it receives, it shifts to step S7 of the processing flow (drawing 12) of the destination-side terminal of the 1st principle in the path shown by **, and subsequent processing is performed.

[0051] Thus, by each processing flow of an origination-side terminal and a destination-side terminal shown in drawing 13 and drawing 14 , since they require transmission of message person information of a partner only when it is old information, even if transmission and reception of message person information do not have the message person information on a partner terminal in the end of a local or there are, they can reduce traffic, can shorten communication link time amount, and can display the newest message person information.

[0052] Drawing 15 and drawing 16 to S1 and S2 of the processing flow of the origination-side terminal by the 1st principle configuration which shows the processing flow of the voice communication establishment by the 3rd principle configuration (refer to drawing 3), and drawing 15 is the processing flow of the origination-side terminal by the 3rd principle configuration, and is shown in above-mentioned drawing 10 ** -- it is the same processing, as S2 to ** of drawing 10 shows, it branches, and it has become the flow which returns from the last step S11 shown in drawing 15 to S11 of drawing 11 in the path of **.

[0053] While inputting the address of a partner communication terminal and carrying out submission operation after registering one's message person information by S1 and S2 of drawing 10 by the master station side, processing which judges the existence of a message (message which is a message showing the urgency and business of a message, and is told before a partner answers at the time of voice communication establishment) the whole call is performed (S1 of drawing 15). this judgment -- the time of submission operation -- a display -- every call -- the existence of a message -- displaying -- "-- it is -- " -- it is distinguished by whether the input to choose was performed. If a message is inputted the whole call from the input section when it shifts to S4 mentioned later when there is no message the whole call, and there is a message the whole call (S3 of drawing 15), a call message will be transmitted to the partner address via a communication interface (this S4). then, if reception of an ACK signal is supervised (S5 of drawing 15) and it does not receive from a partner terminal, it will be recognized as a partner absence (terminal power-source OFF), and an absent purport is displayed (said -- S6), and processing is ended. If an ACK signal is received, the message person information transmit/receive control section (16 of drawing 3) will transmit a message to a partner terminal the whole call with the message person information in the end of a local stored in the message person information storing section (15 of drawing 3) (S7 of drawing 15). Then, if it does not receive even if it waits for reception of message person information and carries out fixed time amount progress from a partner terminal If a partner terminal is set up so that it may operate henceforth as a thing without the display function of message person information (S9 of drawing 15 , S10), and the message person information on a partner terminal is received in reception of a partner terminal to the message in a call, if waiting (said -- S11) and this are received, it will shift to S11 of above-mentioned drawing 11 , and future processings will be performed.

[0054] Drawing 16 is the processing flow of the destination-side terminal by the 3rd principle configuration. in a destination-side terminal, after an operator inputs message person information from the input section and registers it into the message person information storing section (S1 of drawing 16), reception of a call message is supervised (said -- S2), and when it receives, it distinguishes whether the message was received the whole call from an origination-side terminal (said -- S3). when it receives, in case it displays only message person information on a display when not receiving a message the whole call (S4 of drawing 16), and message person information is displayed, a message is also displayed on coincidence the whole call (said -- S5). After this, it shifts to step S3 of above-mentioned drawing 12 , and future processings are performed.

[0055] By each processing of the origination-side terminal shown in above-mentioned drawing 15 and drawing 16 and a destination-side terminal, in a communication link establishment procedure, it

transmits against a message the whole call, and before the partner of a destination-side terminal who received this regards the display of a message as message person information the whole call and answers, he can know business etc.

[0056] Drawing 17 and drawing 18 show the processing flow of the voice communication establishment by the 4th principle configuration (refer to drawing 4).

[0057] It is the processing flow of the origination-side terminal by the 4th principle configuration, and drawing 17 is the processing that above-mentioned drawing 10 , and S1-S10 of the processing flow of the origination-side terminal by the 1st principle configuration shown in drawing 11 are the same, it branches in the path shown by S11 to ** of drawing 11 , and shifts to processing of drawing 15 . here, it displays on a display that it is among a call with the message person information on the partner terminal which directed in the message person information transmit/receive control section (16 of drawing 4), and was received, a sound is sent out to a terminal hand set or a loudspeaker during a call (S1 of drawing 17), and it distinguishes whether the arrival-of-the-mail response message was received from a partner terminal (said -- S2). when an arrival-of-the-mail response message is received, the arrival-of-the-mail response message of the partner terminal which directed in the message person information transmit/receive control section, and was received is displayed on a display with message person information (S3 of drawing 17), the operator in the end of a local opts for processing according to a message (this S4), and it distinguishes in a call partial dial (said -- S5). in the case of a partial dial, processing is ended, but when it is not abandonment, and when an arrival-of-the-mail response message is received from a partner terminal in the above S2, reception of a response message is supervised from a partner terminal (said -- S6). If a response message is received, it will indicate that it is under message and a speaking circuit will be turned ON to the speaking circuit section (11 of drawing 4), and it will point so that voice may be transmitted and received (S7 of drawing 17), and voice communication will be established.

[0058] If drawing 18 is the processing flow of the destination-side terminal by the 4th principle configuration, it is the processing that S1 of the processing flow of the destination-side terminal by the 1st principle configuration shown in above-mentioned drawing 12 - S4 are the same and message person information is received from a terminal (in the case [S4 of drawing 12] of YES) ** It branches in a path, shift to processing of drawing 17 , transmit the message in a call to an origination-side terminal at a destination-side terminal, direct in the message person information transmit/receive control section (16 of drawing 4), give an indication under arrival of the mail to the message person information on the partner terminal received to the display, and send out a ringer tone to a terminal loudspeaker (S1 of drawing 18). then, the transmitting screen (a response message / actuation selection screen) of an arrival-of-the-mail response message is displayed, and actuation is demanded from an operator (said -- S2). Then, it distinguishes whether the arrival-of-the-mail response message (message including a reason and a situation when a telephone cannot be answered by the reason of an action addressee being unable to lift a hand) was chosen (S3 of drawing 18). whether the call partial dial was detected by transmitting the selected arrival-of-the-mail response message to an addresser (origination-side terminal), if chosen (this S4), although processing will be ended if it distinguishes (said -- S5) and a partial dial is detected when a partial dial was not detected, response actuation (it carries out off-hook [of the hand set]) was detected like the case where an arrival-of-the-mail response message is not chosen by the above S3 -- that monitor is performed (said -- S6). If response actuation is detected, the purport which is talking over the telephone will be displayed on a display, and a speaking circuit will be turned ON at the speaking circuit section, and it will point so that voice may be transmitted and received (S7 of drawing 18), and voice communication will be established.

[0059] When an action addressee cannot answer in a communication link establishment procedure by each processing of the origination-side terminal shown in above-mentioned drawing 17 and drawing 18 and a destination-side terminal, the display which chooses an arrival-of-the-mail response message with the message person information on a master station is displayed on a destination-side terminal, and it can notify, without answering the situation which cannot answer an addresser.

[0060] Drawing 19 is the procedure of the voice communication establishment by the 5th principle

configuration (refer to drawing 5), and shows the processing flow of the origination-side terminal by the 5th principle configuration especially.

[0061] The processing to steps S1-S5 of drawing 19 is the same as S1-S5 of the processing flow of the origination-side terminal of the 1st principle shown in above-mentioned drawing 10 , and omits explanation. If it distinguishes having received the ACK signal from the partner terminal in S4 of drawing 19 , the message person information transmit/receive control section (16 of drawing 5) will transmit to a partner terminal with the identifier which shows the item of a format of the message person information on the origination-side terminal stored in the message person information storing section (S6 of drawing 19). As an identifier, a different identifier corresponding to the classification of data is assigned like the identifier showing photograph data, and the identifier showing text data. then, it sets up as whether message person information was received from the partner terminal or fixed time amount progress was carried out without being distinguished and (said -- S7) received, and a terminal in which a partner terminal does not have a message person information-display function if it distinguishes (said -- S8) and fixed time amount passes (this S9), and shifts to the next processing (path of **). Moreover, also when message person information is received, it shifts to processing of above-mentioned drawing 11 of S10 according to the path of **, and future processings are performed.

[0062] Drawing 20 shows the processing flow of the information registration to the share database (database server) by the 6th principle configuration (refer to drawing 6), and is performed with the terminal connected through IP network.

[0063] The inquiry message by which the addresser address information and the information date of message person information went into whether the information in the end of a local was updated by performing processing of drawing 20 in a terminal at the time during a communication link of communication link termination and the database address registered into the server address storing section (21 of drawing 6) if there is renewal of information, although processing will be ended if it distinguishes (S1 of drawing 20) and there is no renewal of information is transmitted (S2 of drawing 20). each next processing of S3-S7 is performed in a database server, and it shifts to the processing of S7 later mentioned when distinguish (this S4) and there is nothing, whether the database server which received the inquiry message has the information on this addresser address by investigating the received information (S3 of drawing 20), and, and when it is, it distinguishes whether a receipt information date is new (said -- S5). When not different from the date which that of distinction of this date is the same as that of the time information by the 2nd principle shown in above-mentioned drawing 13 and drawing 14 , and the receipt information date registered before A database server notifies a purport with an unnecessary transfer of message person information to the terminal which transmitted the inquiry message (drawing [S6] 2020). When a receipt information date is new a database server transmits the message which requires a transfer of message person information to the terminal which transmitted the inquiry message (said -- S7). Then, the terminal which received the information transfer demand message transmits message person information to a database server (S8 of drawing 20), and the database server which received message person information updates information (this S9), and completes renewal of information.

[0064] Thus, since the newest message person information is stored by registering the message person information on each terminal into the database server, and always updating the contents, this can be shared between each terminal and it becomes possible to use it for the application of a share telephone directory, and since the format of the stored message person information is unified, it becomes possible to retrieve information as a key.

[0065] Drawing 21 - drawing 23 are processing flows by the 7th principle configuration (refer to drawing 7), drawing 21 and drawing 22 are the processing flow (the 1) of new arrival reception of a terminal, and (its 2) during the message by the 7th principle configuration, and drawing 23 is the processing flow of the suspended terminal by the 7th principle configuration.

[0066] Processing of drawing 21 and drawing 22 distinguishes whether the terminal received the new call message during the message by performing in a condition during a message (S1 of drawing 21). When it receives, transmit an ACK message to an addresser and the message person information

configuration (refer to drawing 5), and shows the processing flow of the origination-side terminal by the 5th principle configuration especially.

[0061] The processing to steps S1-S5 of drawing 19 is the same as S1-S5 of the processing flow of the origination-side terminal of the 1st principle shown in above-mentioned drawing 10 , and omits explanation. If it distinguishes having received the ACK signal from the partner terminal in S4 of drawing 19 , the message person information transmit/receive control section (16 of drawing 5) will transmit to a partner terminal with the identifier which shows the item of a format of the message person information on the origination-side terminal stored in the message person information storing section (S6 of drawing 19). As an identifier, a different identifier corresponding to the classification of data is assigned like the identifier showing photograph data, and the identifier showing text data. then, it sets up as whether message person information was received from the partner terminal or fixed time amount progress was carried out without being distinguished and (said -- S7) received, and a terminal in which a partner terminal does not have a message person information-display function if it distinguishes (said -- S8) and fixed time amount passes (this S9), and shifts to the next processing (path of **). Moreover, also when message person information is received, it shifts to processing of above-mentioned drawing 11 of S10 according to the path of **, and future processings are performed.

[0062] Drawing 20 shows the processing flow of the information registration to the share database (database server) by the 6th principle configuration (refer to drawing 6), and is performed with the terminal connected through IP network.

[0063] The inquiry message by which the addresser address information and the information date of message person information went into whether the information in the end of a local was updated by performing processing of drawing 20 in a terminal at the time during a communication link of communication link termination and the database address registered into the server address storing section (21 of drawing 6) if there is renewal of information, although processing will be ended if it distinguishes (S1 of drawing 20) and there is no renewal of information is transmitted (S2 of drawing 20). each next processing of S3-S7 is performed in a database server, and it shifts to the processing of S7 later mentioned when distinguish (this S4) and there is nothing, whether the database server which received the inquiry message has the information on this addresser address by investigating the received information (S3 of drawing 20), and, and when it is, it distinguishes whether a receipt information date is new (said -- S5). When not different from the date which that of distinction of this date is the same as that of the time information by the 2nd principle shown in above-mentioned drawing 13 and drawing 14 , and the receipt information date registered before A database server notifies a purport with an unnecessary transfer of message person information to the terminal which transmitted the inquiry message (drawing [S6] 2020). When a receipt information date is new a database server transmits the message which requires a transfer of message person information to the terminal which transmitted the inquiry message (said -- S7). Then, the terminal which received the information transfer demand message transmits message person information to a database server (S8 of drawing 20), and the database server which received message person information updates information (this S9), and completes renewal of information.

[0064] Thus, since the newest message person information is stored by registering the message person information on each terminal into the database server, and always updating the contents, this can be shared between each terminal and it becomes possible to use it for the application of a share telephone directory, and since the format of the stored message person information is unified, it becomes possible to retrieve information as a key.

[0065] Drawing 21 - drawing 23 are processing flows by the 7th principle configuration (refer to drawing 7), drawing 21 and drawing 22 are the processing flow (the 1) of new arrival reception of a terminal, and (its 2) during the message by the 7th principle configuration, and drawing 23 is the processing flow of the suspended terminal by the 7th principle configuration.

[0066] Processing of drawing 21 and drawing 22 distinguishes whether the terminal received the new call message during the message by performing in a condition during a message (S1 of drawing 21). When it receives, transmit an ACK message to an addresser and the message person information

transmit/receive control section (16 of <u>drawing 7</u>) transmits the message person information on the terminal stored in the message person information storing section (15 of <u>drawing 7</u>) to a new call partner terminal (S2 of <u>drawing 21</u>). it distinguishes whether message person information was received from a partner terminal (said -- S3). it is recognized as whether fixed time amount progress was carried out without receiving, and the terminal in which a partner terminal does not have a message person information-display function if it supervises and (S4 of <u>drawing 21</u>) passes, and it sets up so that it may operate without a message person information display (said -- S5). If message person information is received, will transmit a call message (under a message) to a new call partner, will direct in the message person information transmit/receive control section (16 of <u>drawing 7</u>), and with the message person information on the received partner terminal While displaying the purport which is new receiving a message on a display and sending out a call waiting sound to a terminal loudspeaker, the message which stimulates directions of whether to change a message is displayed on a display (S6 of <u>drawing 21</u>).

[0067] then, whether message change actuation was detected or it distinguished (S7 of <u>drawing 22</u>), and when not detecting, there was any actuation of directing continuation of a message distinguish (said -- S8), when detected, a message improper message is transmitted to a new call partner, and the present message is continued (this S9). In the above S7, when message change actuation is detected, the message change section (22 of <u>drawing 7</u>) is controlled, a message is changed to a new destination side, a purport with the call under hold is displayed on a display, the message under hold is transmitted to the former message partner (S10 of <u>drawing 22</u>), and tone on hold is transmitted from the tone-on-hold transmitting section within the terminal which received the message during the hold (22 of drawing 7). then, whether hold discharge actuation was detected distinguishes (S11 of drawing 22), when detected, a hold discharge message is transmitted to the former message partner, a message is changed to the pre-message other party, pre-message person information is displayed to a display (under a held-call-less message) (said -- S12), the tone on hold from the tone-on-hold transmitting section is stopped, and the message change section returns to a condition during the first message.

[0068] Drawing 23 is the processing flow of an above-mentioned drawing 21 and the terminal put on hold by processing of drawing 22 by new arrival under message, i.e., a suspended terminal, and is set in the condition during a message. if it distinguishes whether the message held was received (S1 of drawing 23) and receives, the transmission and reception to the communication network of voice communication information will be stopped, it points so that tone on hold may be sent out to the tone-on-hold transmitting section at a loudspeaker, and it is made to display under hold to a display (said -- S2) Then, if reception of a hold discharge message is supervised (S3 of drawing 23) and it receives, the transmission and reception to the communication network of voice communication information will be resumed, sending out of tone on hold is stopped, a speaking circuit is changed to a network side, and the purport which is talking over the telephone is displayed on a display (this S4).

[0069] It can choose whether by above-mentioned drawing 22 and the processing flow of drawing 23, the message person of new arrival is recognized by transmitting, receiving and displaying the message person information, when the new arrival from the 3rd terminal occurs during 2 person messages, and it changes to the message with the terminal. Moreover, the terminal put on hold by call waiting can prevent pouring an unnecessary speech information bucket by suspending transmission of the bucket to a communication network. In addition, although the above-mentioned processing flow showed the example of 2 person messages, it is also possible to change the 3rd terminal which newly received a message by transposing the message change section (22 of drawing 7) to the message mixing section which enables 3 person meetings so that it may be made to participate in 2 person messages till then and may talk over the telephone in a meeting message format. In addition, in the message mixing section, it has the function to add the speech information which received from two persons' partner, and the function to transmit the output voice in the end of a local to each of two persons' partner further.

[0070] Drawing 24 is the application software of a terminal, and the example of a message person information management table. Application software 101b (refer to drawing 9) includes the program which controls the message person information display by this invention. In the example of drawing 24 The message person information transmit/receive control section 16 (refer to drawing 1 - drawing 7), the

message person information format convention section 20 (refer to drawing 5), The whole call A message 18 (refer to drawing 3 - drawing 5), the speaking circuit section 11 (refer to drawing 1 thru/or drawing 7), and the message person Research and Data Processing Department (drawing 1 -- or) It consists of functions of a part of control section 10 of drawing 7, and a message person information management table (101d of drawing 9) is equipped with information 15a (it corresponds to drawing 1 thru/or drawing 5, and the message person information storing section 15 of drawing 7), and accepting-station information 17a (it corresponds to drawing 2 thru/or the reception message person information storing section 17 of drawing 5) in the end of a local. The telephone number, an IP address, a name, a firm name, affiliation, the address, E-mail, a cellular-phone number, etc. are contained, and accepting-station information 17a is also constituted from the example shown in drawing as information 15a in the end of a local by the same information.

[0071] Drawing 25 is the example of a display of message person information, and the example of the input screen of an arrival-of-the-mail response message, and corresponds to the 4th principle configuration of this invention. A. of drawing 25 is an example of a display in the destination side of message person information, and the address (telephone number), an identifier, a firm name, affiliation, the mail address, the cellular-phone number, etc. are displayed as a message person's image. The message in this is a message (based on the 3rd principle configuration of this invention) the whole call, and is a message sent and displayed on a destination-side terminal with message person information from an origination-side terminal. B. of drawing 25 is the example of the screen which chooses and inputs an arrival-of-the-mail response message, and is a screen displayed in the processing flow in the end of an action-addressee side edge which corresponds to the 4th principle configuration (drawing 4) of this invention, and is shown in above-mentioned drawing 18. Since - response and a display called message sending below - (selection) are under the display "choose arrival-of-the-mail processing" and "hand cannot be lifted to the bottom of it on this screen If various kinds of messages of that it applies again", "connecting requirements by E-mail", etc. are displayed and a destination-side user chooses the response message corresponding to the situation at that time from this inside, a message as shown in the lower part of A. of drawing 25 will be transmitted.

[0072] Drawing 26 is the example of a display of the terminal at the time of share telephone directory data base manipulation, and corresponds to the 6th principle configuration of this invention. A. of drawing 26 shows the retrieval item input screen of a share telephone directory, and input areas, such as a name, a firm name, and affiliation, are displayed. If the family name "Suzuki" is inputted into the name in this, retrieval will be performed in a share telephone directory database, and a retrieval result as shown in B. will be displayed. Selection of the name of "1" displays the message person information stored in the database as shown in C. to the display of this retrieval result.

[0073] Drawing 27 is an operating sequence from dispatch by this invention to under a message. The example shown in this drawing 27 explains the operating sequence of a under [a message] from the dispatch at the time of the operator of a terminal 1 doing telephone dispatch by making a terminal 2 into a destination side, making a terminal 1 as an origination side. the application software (a communication link -- it is called an application) which has telephone communication facility in order to perform telephone actuation -- required -- both a terminal 1 and the terminal 2 -- both -- a communication link -- the application shall be started beforehand Moreover, time information is transmitted and received between terminals, and it detects whether it is the newest message person information, and corresponds to the 2nd principle configuration of this invention.

[0074] in order that the operator of a terminal 1 may do telephone dispatch at a terminal 2 -- a communication link -- the telephone number of a message and a terminal 2 is inputted the whole call on the dispatch screen of an application (S10 of drawing 27), and submission operation is performed (said -- S11). a terminal 1 -- other -- in order for IP address information to come to hand from the telephone number of 2, it goes to ask a gatekeeper (drawing 27 illustration abbreviation), and the IP address information on a terminal 2 comes to hand. the communication link of the terminal 1 after IP address information's coming to hand -- an application transmits a call message (IP packet) to a terminal 2 (a of drawing 27). the communication link of the terminal 2 which received the call message -- an application

answers a letter in an ACK signal (b of drawing 27), and transmits the time information of the message person information on a terminal 2 to a terminal 1 (said -- c). the communication link of the terminal 1 which received the ACK signal -- it is recognized as an application being in the condition that a partner terminal can talk over the telephone, and a message is transmitted the whole call with the time information of the message person information on a terminal 1 to a terminal 2 (d of drawing 27). The terminals 1 and 2 which received the time information of message person information transmit the ACK message which requires transmission of message person information to a partner terminal, if the message person information on a partner terminal checks whether it exists within the end of a local and does not exist (e of drawing 27). The time information received when message person information existed within the end of a local is compared with the time information of the message person information currently held within the end of a local (S12, S21 of drawing 27). If the received time information is newer as a result of comparing, the ACK message which requires transmission of message person information of a partner terminal will be transmitted, and if the received time information is the same, the ACK message which shows the purport that transmission of message person information is unnecessary to a partner terminal will be transmitted. The terminals 1 and 2 which received the ACK message transmit self-message person information according to the contents of the message.

[0075] In the example of this drawing 27, the terminal 1 did not transmit self-message person information to a terminal 2, but only the terminal 2 has transmitted self-message person information to the terminal 1 (g of drawing 27). On a display, with the message person information on a terminal 1, the terminal 2 which checked that the message person information on the terminal 1 held in the end of a local was the newest performs an arrival-of-the-mail display (S23 of drawing 27), and transmits the message in a call to a terminal 1 (h of drawing 27).

[0076] The terminal 1 which received the message person information on a terminal 2 and the message in a call performs a display among a call with the message person information on a terminal 2 on a display (S16 of drawing 27). the communication link of a terminal 2 -- if an application detects the response actuation by actuation of the input section (S26 of drawing 27), a response message will be transmitted to a terminal 1 (i of drawing 27), and under a message will be displayed on a display (S27 of drawing 27). To coincidence, the speaking circuit of a voice control card It starts. I/O of a hand set It confirms. The input speech information from a hand set After changing into a digital signal by the codec (CODEC: Coder-Decoder), while putting data on the voice IP packet of addressing to the address of a terminal 1, transmitting to a LAN card via an I/O bus and starting transmission to a terminal 1 After extracting voice data from the voice IP packet which received from the terminal 1 and changing into an analog signal by CODEC, it transmits to a hand set. Voice communication is started by this actuation. The terminal 1 which received the response message from the terminal 2 displays under a message on a display, and turns into the end of a local during a message in the same procedure as a terminal 2.

[0077] Next, drawing 28 is an operating sequence between the terminals from dispatch to the partial dial by transmission and reception (4th principle configuration of this invention) of a response message. In the example of this drawing 28 as well as above-mentioned drawing 27, a terminal 1 is made into an origination side, a terminal 2 is made into a destination side, and above-mentioned drawing 27 has even the the same sequence of a-h. then, if transmitting actuation of an arrival-of-the-mail response message (for example, message of "applying again later since a hand cannot be lifted") as shown in B. of above-mentioned drawing 25 in a terminal 2 is performed (S26 and i of drawing 28), an arrival-of-the-mail response message will be displayed at a terminal 1 (said -- S17). if this message is seen and the message person of the terminal 1 of an origination side does the partial dial of the message (said -- S18), the message of cutting will be transmitted to a terminal 2 (said -- j), the terminal 2 which received this will perform an arrival-of-the-mail halt (said -- S27), and the message of cutting will be transmitted to a terminal 1 (said -- k).

[0078] Drawing 29 is an operating sequence when the arrival from the 3rd terminal occurs during 2 person messages, and corresponds to the 7th principle configuration of this invention. In this example, the call from a terminal 3 to a terminal 2 occurs during a message between a terminal 1 and a terminal 2,

as the sequence of transmission and reception of message person information shows in drawing, it performs, and change actuation is carried out to the message with a terminal 2 and a terminal 3, and a terminal 1 is put on hold. Then, through the message between a terminal 3 and a terminal 2, cutting actuation is performed from a terminal 2 to a terminal 3, and the sequence of which the hold to a terminal 1 is canceled is performed.

[0079] Drawing 30 is the operating sequence of the data base updating which stored message person information, and corresponds to the 6th principle configuration of above-mentioned this invention.

[0080] When message person information is transmitted to a terminal 2 from a terminal 1, it is the case where the message person information on the terminal 1 stored in the terminal 2 is updated. If it turns out that a terminal 2 is newer than the time information into which information retrieval was performed by the database and the direction of the asked time information was registered if the address of a database is attached by this updating, it sends and that time information (modification time) is asked about the message person information on a terminal 1, it will require the message person information updated to the terminal 2. If message person information is transmitted according to this, the information to which a database corresponds will be updated.

[0081] Drawing 31 is a communication terminal at the time of a message person information inquiry, and an operating sequence between databases. Although it corresponds to the 6th principle configuration of this invention like [this operating sequence] above-mentioned drawing 30, it is a sequence in the case of using a database as a telephone directory.

[0082] If a retrieval screen is expressed as a terminal 1 and a condition input is performed, conditions will be transmitted to a database and condition retrieval will be performed by the database, and if a result is transmitted to a terminal 1, it will be expressed as a terminal 1. If it narrows down at a terminal 1 and additional conditions are inputted to the display, both conditions 1 and this conditions 2 added by carrying out a pair will be transmitted to a database. If it searches according to the conditions received in the database, a result will be transmitted by the terminal 1 and a result will be displayed on a terminal 1. If an item is chosen at a terminal 1 and message person information is required about that item from this display, information retrieval will be performed about the item demanded in the database, and the acquired message person information will be transmitted to a terminal 1. At a terminal 1, it is displayed that this information is received.

[0083]

[Effect of the Invention] It not only transmits an addresser's message person information to an action addressee in a communication link establishment procedure, but according to the 1st principle configuration of this invention, since the message person information on an action addressee is also transmitted to the addresser and the newest message person information information on a communications partner can be displayed on each terminal of an addresser/action addressee at the time of arrival/calling indicator, it becomes possible to identify a communications partner easily at the time of dispatch/arrival, and it can improve communicative serviceability. Moreover, it becomes easily possible from the self-terminal input section to update information by the message person information displayed on a communications-partner terminal being stored within the end of a local, and the operability at the time of employment improves.

[0084] Since it becomes possible to become possible to reduce the traffic between the dispatch/called terminal at the time of a communication link setup, and to shorten communication link time amount required for informational delivery according to the 2nd principle configuration of this invention, an information display becomes speedy and serviceability improves further.

[0085] According to the 3rd principle configuration of this invention, before a response, arrival of the mail can know the urgency and requirements for a message, and its serviceability improves further by displaying a message on a called terminal the whole call which the addresser inputted.

[0086] According to the 4th principle configuration of this invention, an action addressee becomes possible [processing a message], without answering to a call, and can improve serviceability because an action addressee transmits an arrival-of-the-mail response message to an addresser at the time of arrival of the mail.

[0087] According to the 5th principle configuration of this invention, since message person information is transmitted by item correspondence of a format, it becomes possible to reduce the amount of information to transmit, and communication link time amount is shortened, an information display becomes speedy, and serviceability improves further.

[0088] According to the 6th principle configuration of this invention, since the message person information on each terminal can be shared on a database server, it becomes possible to use the application of a share telephone directory at each terminal, and serviceability improves. Moreover, since information is updated automatically, it is effective as a renewal means of information at the time of using a share database.

[0089] according to the 7th principle configuration of this invention -- under a message -- even when -- since the message person information on a new action addressee can be displayed, various services, such as message interruption on urgent requirements and a notice of requirements, are attained, and serviceability can be improved further. Furthermore, since the suspended terminal is generating tone on hold in the end of a local and a packetized voice is not transmitted to a network, it is effective in pressing down unnecessary traffic.

[Translation done.]

* NOTICES *

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damages caused by the use of this translation.

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

DRAWINGS

[Drawing 1]
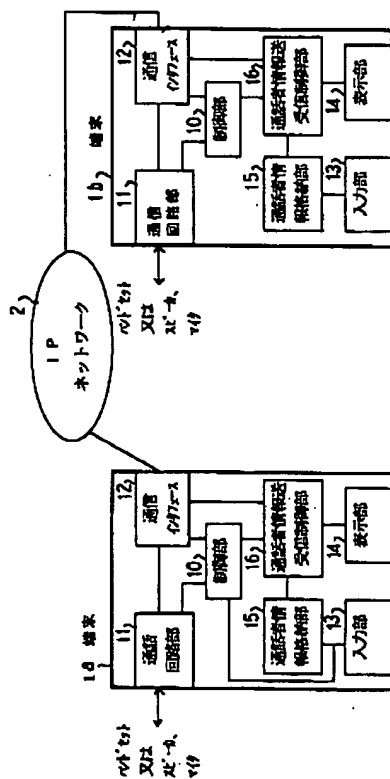
[Drawing 2]

本発明の第2の原理構成
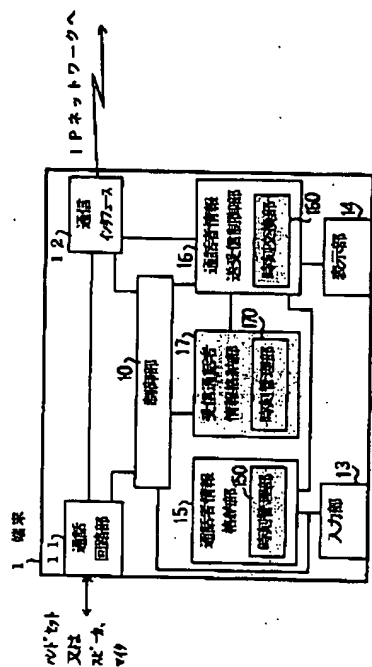
[Drawing 3]

本発明の第3の原理構成
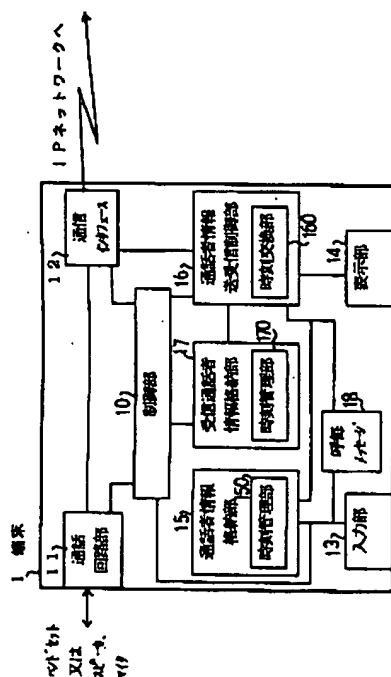
[Drawing 4]

本発明の第4の原理構成
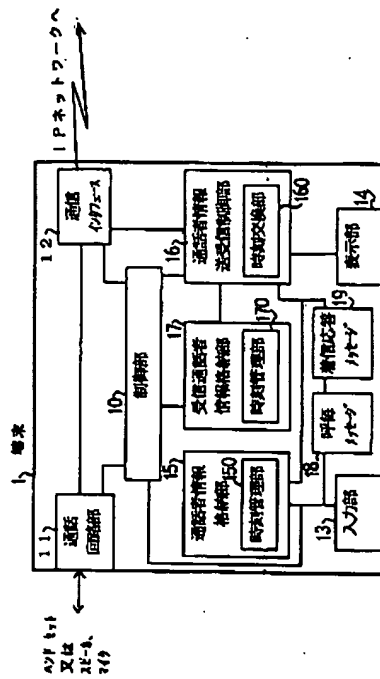
[Drawing 5]

本発明の第5の原理構成

[Drawing 6]

本発明の第6の原理構成

通話者情報

1b 端末

2 IP ネットワーク

データベースサーバ

30 通信制御部
32 データ検索部
33 データベース
31 データ更新部

3

1a 端末

12 通信インタフェース
21 キーワード格納部
16

[Drawing 7]

本発明の第7の原理構成

1 端末

ハンドセット又はスピーカ、マイク

11 通話回路部
22 通話切替部
12 通信インタフェース

IPネットワークへ

23 保留音送信部

10 制御部

15 通話者情報格納部
16 通話者情報送受信制御部

13 入力部
14 表示部
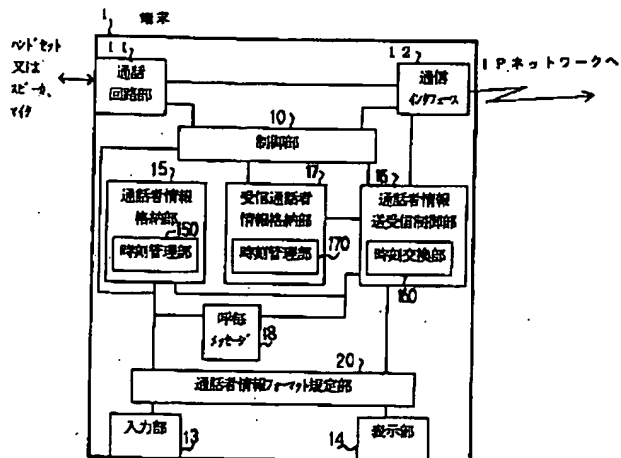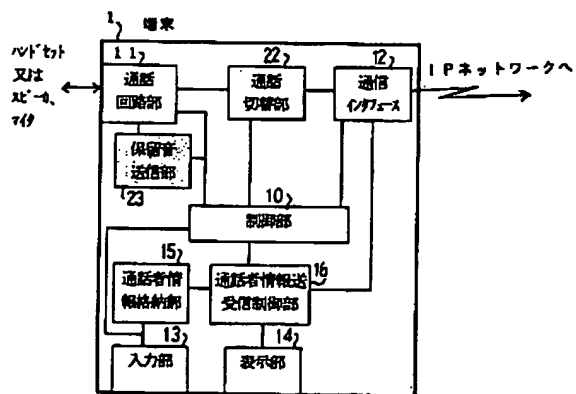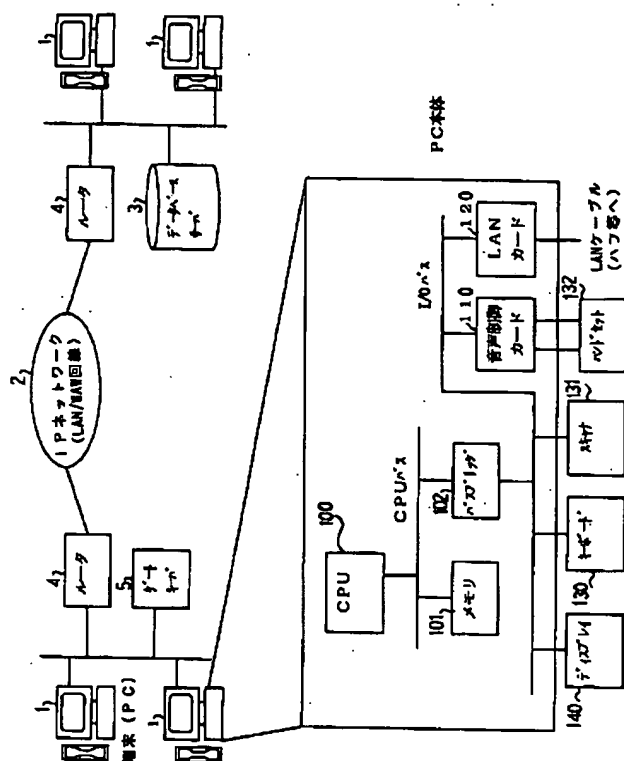
[Drawing 8]

本発明の実施例のシステム構成

[Drawing 9]

本発明によるソフトウェア構造
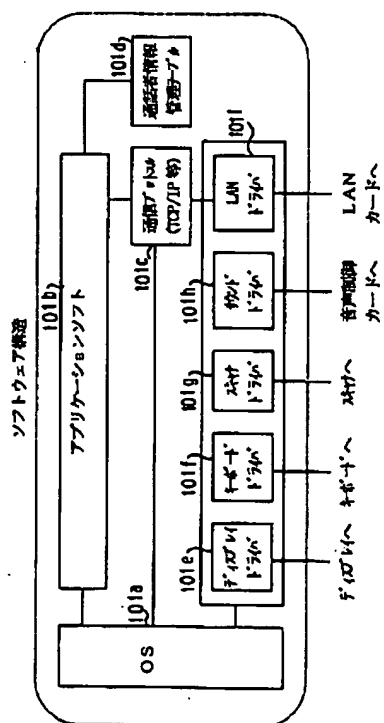
[Drawing 10]

第1の原理構成による発信側端末の
処理フロー（その1）
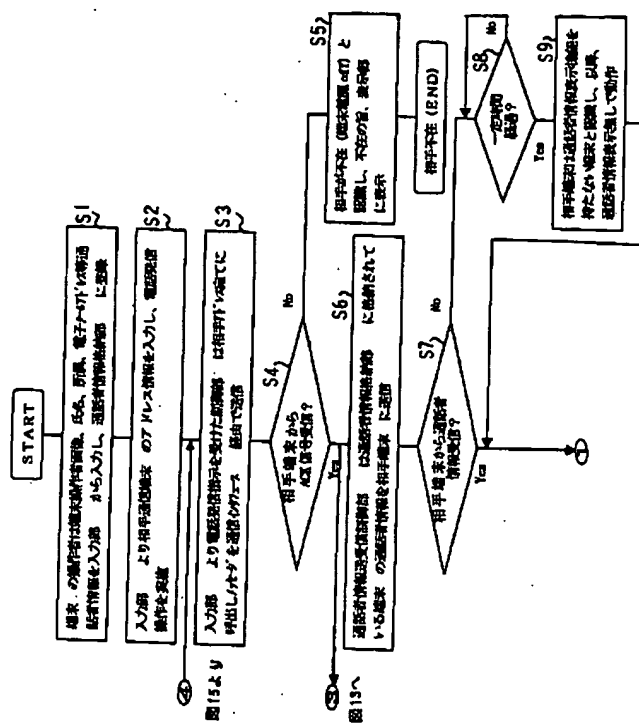
[Drawing 11]

第1の原理構成による発信側端末の
処理フロー（その2）
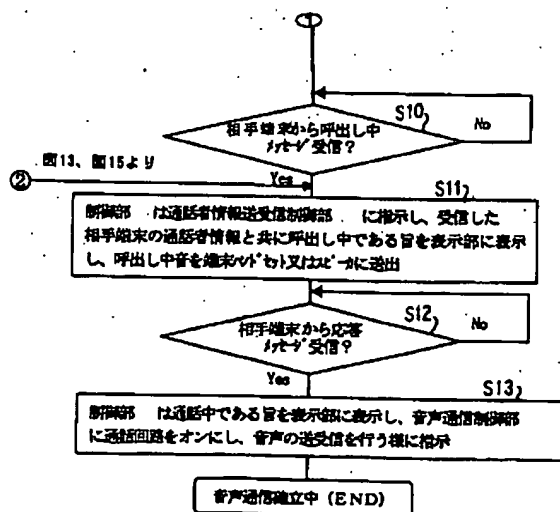
[Drawing 12]

第 1 の 原理 構成 による 発信側端末 の
処理フロー

START
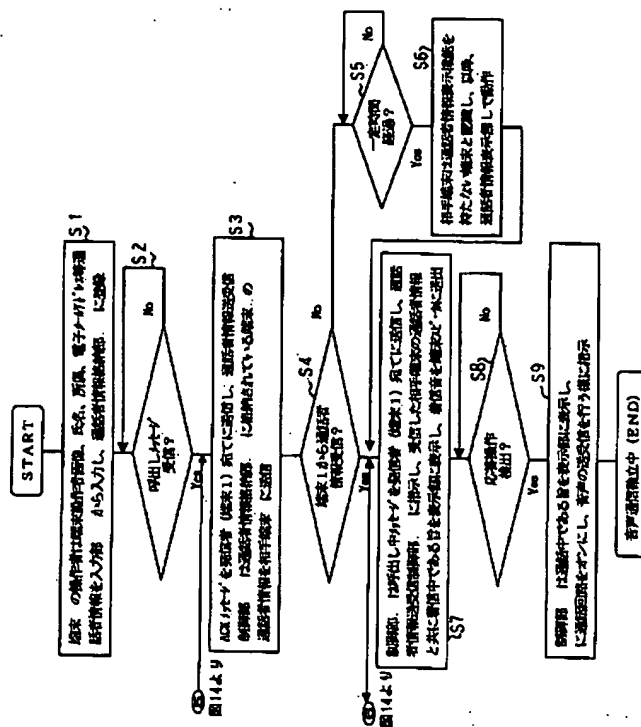
[Drawing 13]

第 2 の 原理 構成 による 発信側端末 の
処理フロー
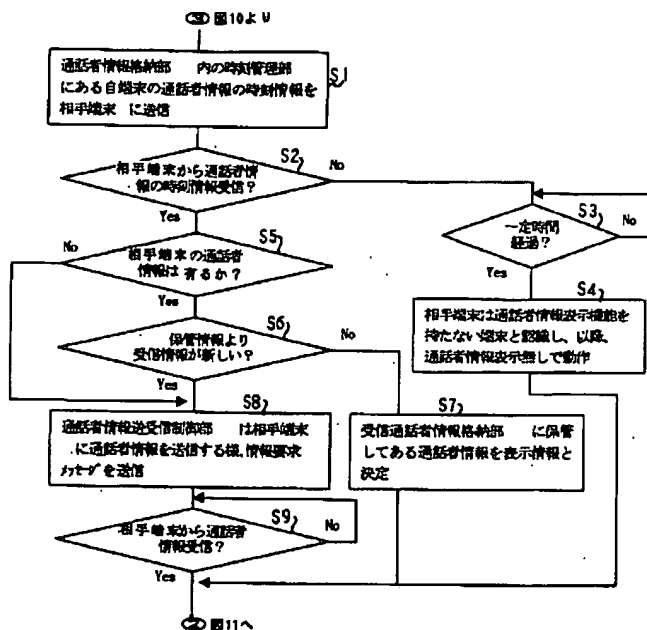
[Drawing 14]

第２の原理構成による着信側端末の
処理フロー

START

端末の操作者は端末操作者位置、氏名、所属、
電子メールアドレス等通話者情報を入力部　から入力
し、通話者情報格納部　に登録　S1

呼出しメッセージ受信？　S2　No

Yes

通話者情報格納部　内の時刻管理部
にある自端末の通話者情報の時刻情報を
相手端末　に送信　S3

端末　から通話者情報の時刻情報受信？　S4　No

Yes

一定時間経過？　S5　No

端末　の通話者情報は　有り？　S7　No

相手端末は通話者情報表示機能を
持たない端末と認識し、以後、
通話者情報表示無しで動作　S6

保管情報より受信情報が新しい？　S8　No

通話者情報送受信制御部　は相手端末
に通話者情報を送信する際、情報要求
メッセージを送信　S10

受信通話者情報格納部　に保管
してある通話者情報を表示情報と
決定　S9

相手端末から通話者情報受信？　S11　No

Yes

図12へ

[Drawing 15]

第３の原理構成による発信側端末の
処理フロー

図10より　S1

呼出しメッセージ有り？　No

呼出しメッセージ/返し　S2

入力部　より呼出しメッセージを入力　S3

入力部　より電話番号や発信者を変えた宛先情報
呼出しメッセージを送信する　S4

は相手側が応答するまで

相手端末　から
ACK情報受信？　S5　No

Yes

通話者情報送受信制御部　に格納されて
いる自端末の通話者情報と呼出しメッセージを相手端末　に送信　S7

相手の不在（相手が応答しない）と
認識し、不在の旨、表示部
に表示　S6

相手不在（END）

一定時間経過？　S9　No

Yes

相手端末　から通話者
情報受信？　S8　No

相手端末は通話者情報表示機能を
持たない端末と認識し、以後、
通話者情報表示無しで動作　S10

相手端末　から呼出し中
メッセージ受信？　S11　No

Yes

図11へ
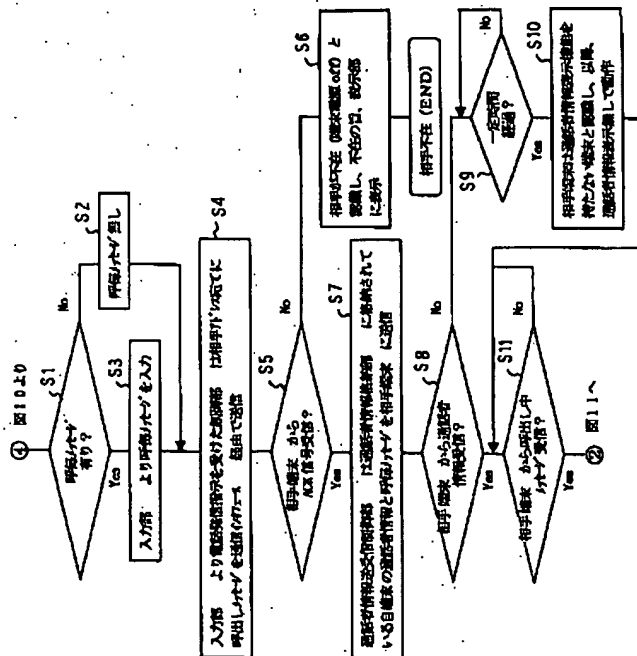
[Drawing 16]

第3の原理構成による着信側端末の
処理フロー
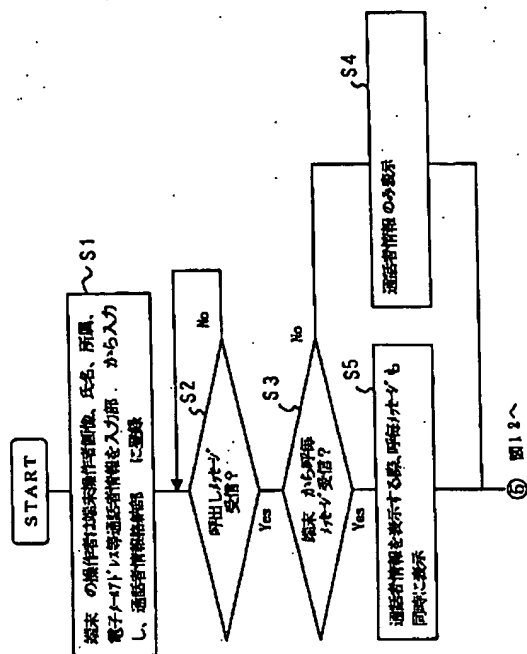
[Drawing 17]

第4の原理構成による発信側端末の
処理フロー
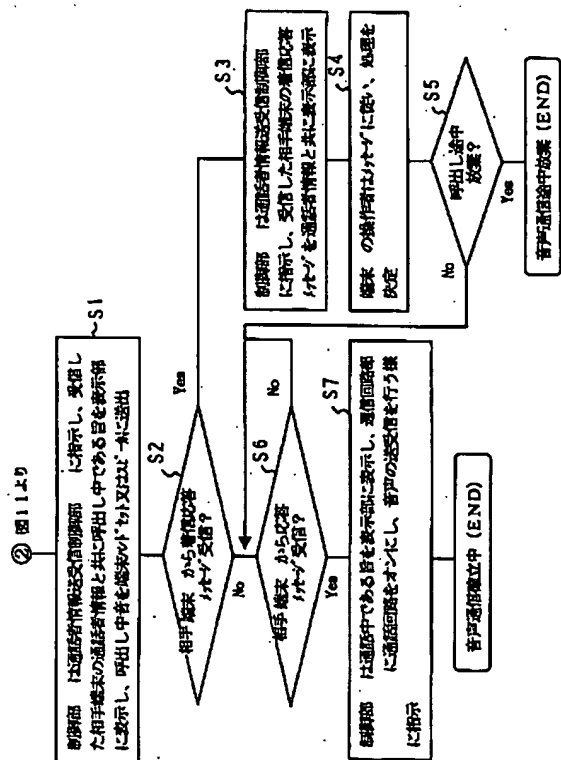
[Drawing 18]

第4の原理構成による着信側端末の
処理フロー
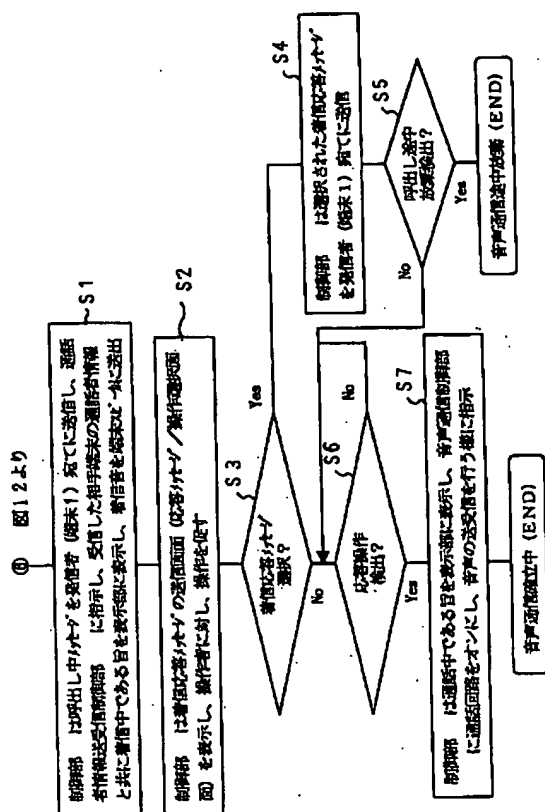
[Drawing 19]

第5の原理構成による発信側端末の
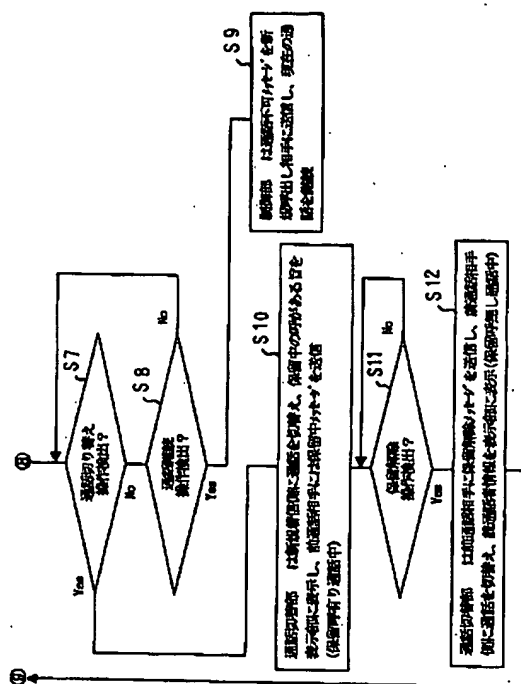処理フロー
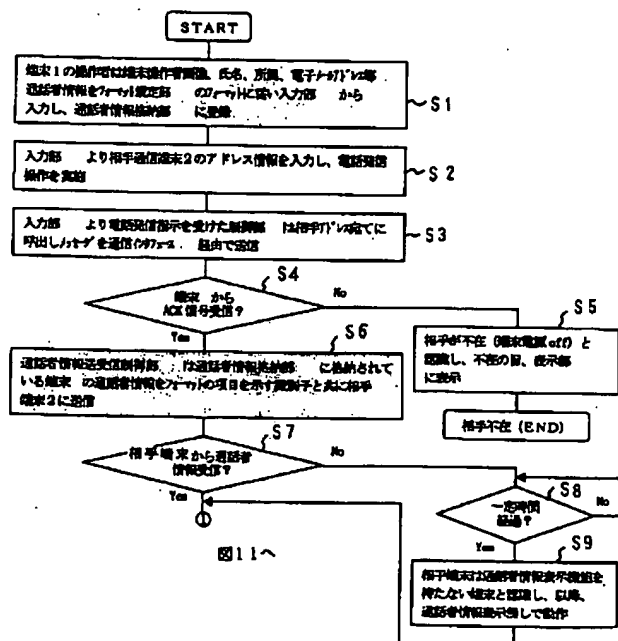
[Drawing 20]

第6の原理構成による共有データベース
への情報登録の処理フロー

START (通信中 又は 通信終了時)

S1 自端末の情報が更新？ No
END (情報更新無し)

Yes

S2 ←アドレス格納部 に登録してあるデータベースアドレスに通話者情報の発信者アドレス情報と情報日付が入った問合せメッセージを送信

S3 問合せメッセージを受信したデータベースサーバ は受信した情報を調査

S4 該発信者アドレスの情報有り？ No

Yes

S5 受信情報日付は新しい？ No
S6 データベースサーバは問合せメッセージを送信した端末に対し、通話者情報の転送が不要な通知

Yes

S7 データベースサーバは問合せメッセージを送信した端末に対し、通話情報の転送を要求する情報転送要求メッセージを送信

S8 情報転送要求メッセージを受信した端末がデータベースサーバに通話情報を送信

S9 通話者情報をを受信したデータベースサーバは情報を更新

END (情報更新完了)

[Drawing 21]

第7の原理構成による通話中端末の
新規着信の処理フロー（その１）
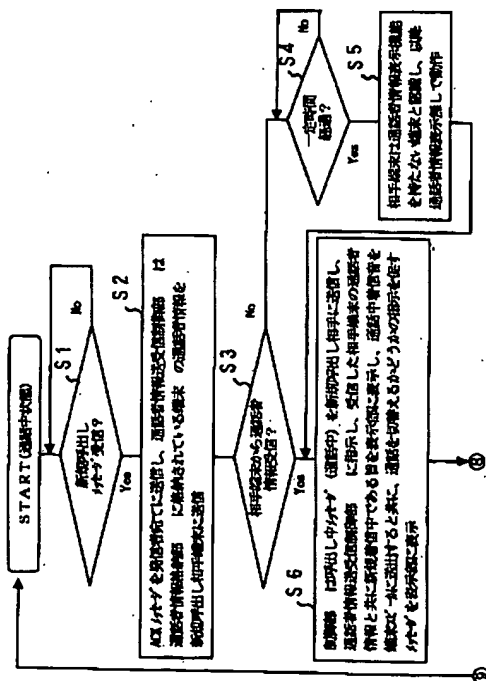
[Drawing 22]

第7の原理構成による通話中端末の
新規着信の処理フロー（その2）

S7　S8　S9　S10　S11　S12

[Drawing 23]

第7の原理構成による被保留端末
の処理フロー

START（通話中状態）

S1　No
保留
メッセージ受信？
Yes

S2
解除部　は音声通信情報の通信ネットワークへの送受信を停止し、保留音
送信部　に保留音をスピーカに送出する様指示し、保留中である旨、
表示部に表示

S3　No
保留解除
メッセージ受信？
Yes

S4
音声通信情報の通信ネットワークへの送受信を再開し、保留音の送出を
停止し、通話回路をネットワーク側に切替え、通話中である旨、表示部に
表示
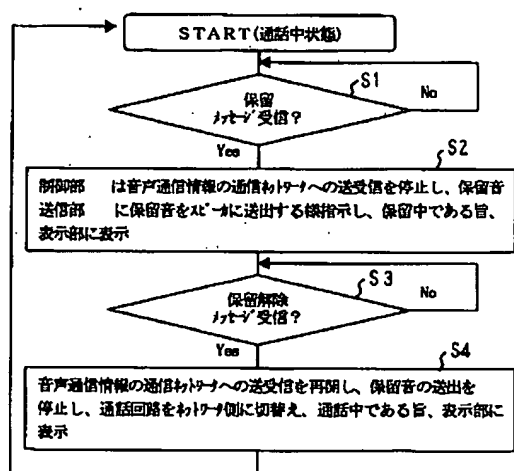
[Drawing 24]

端末のアプリケーションソフトと
通話者情報管理テーブルの実施例

アプリケーションソフト

101b

11 通話回路部

18 所属パッケージ

20 通話者情報フォーマット処理部

16 通話者情報送受信制御部

通話者情報管理記憶

通信アナログへ
(IP通信音声データ)

OS, I/Oベースへ

(入出力データ、表示情報、音声データ)

101d

17d

登録通話者情報
電話番号：xxxx
IPアドレス：yyyy
氏名：xxxx
会社名：aa会社
所属：営業
住所：武蔵野…
Eメール：abc@…
携帯電話：080-xxxx
その他：

通話者情報管理テーブル 15d

自者宛情報
電話番号：044……
IPアドレス：10.2.1.1
氏名：松本
会社名：XX
所属：開発部
住所：川崎市…
Eメール：abc@…
携帯電話：080-YYYY
その他：
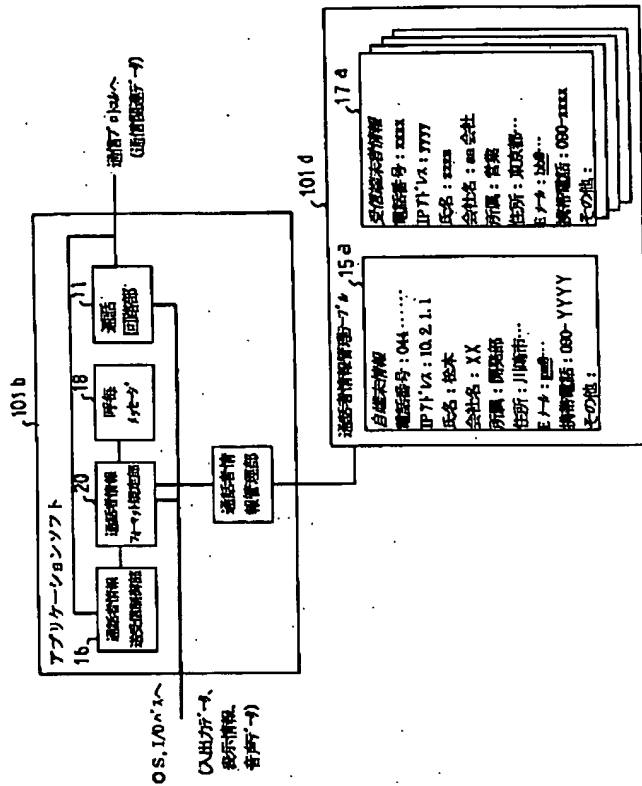
[Drawing 25]
通話者情報の表示例と着信応答
メッセージの入力画面の例

アドレス：　044 ………
名前：　松本
会社名：　XX
所属：　開発部
メールアドレス：　abc…@…
携帯 TEL：　080-YYYY
メッセージ：

問合せの件わかりました

A.

着信処理を選択ください
・応答
・以下メッセージ送信（選択）
◇ 手が離せないのでかけ直します
◇ 電子メールにて要件を連絡ください
◇ 申し訳ありませんが、後でかけ
　直してください（xx分後）
　‥

B.

[Drawing 27]

本発明による発信から通話中までの
動作シーケンス
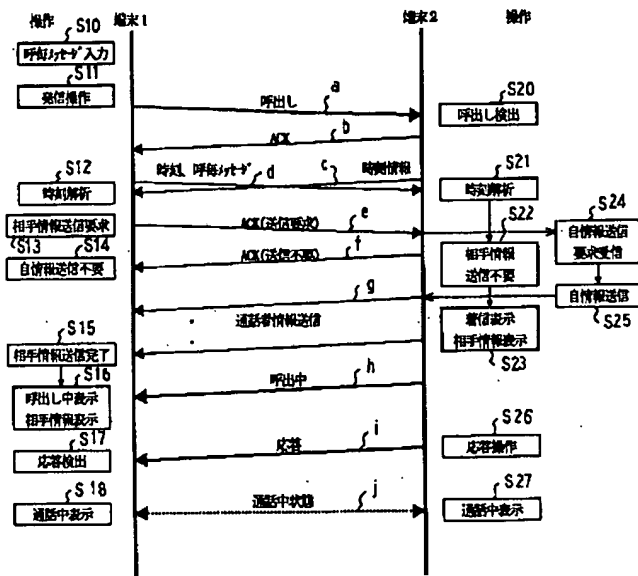
[Drawing 28]

発信から応答メッセージの送受信による
途中放棄までの端末間の動作シーケンス
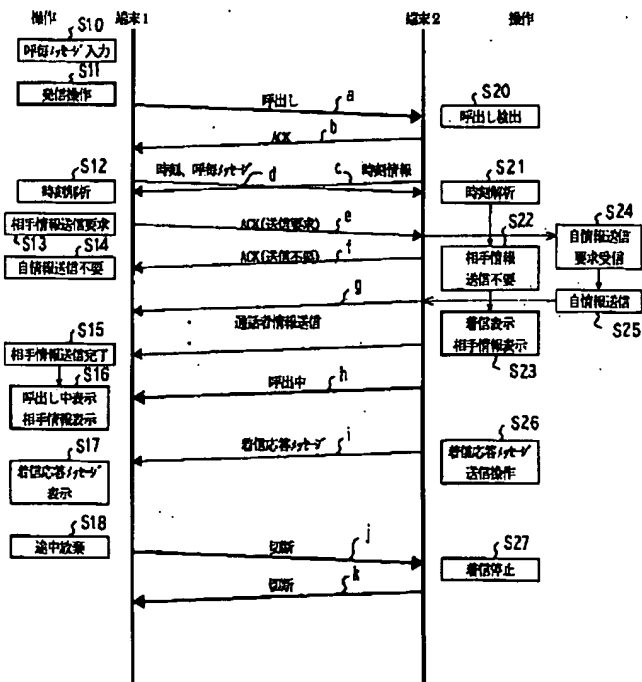
[Drawing 26]
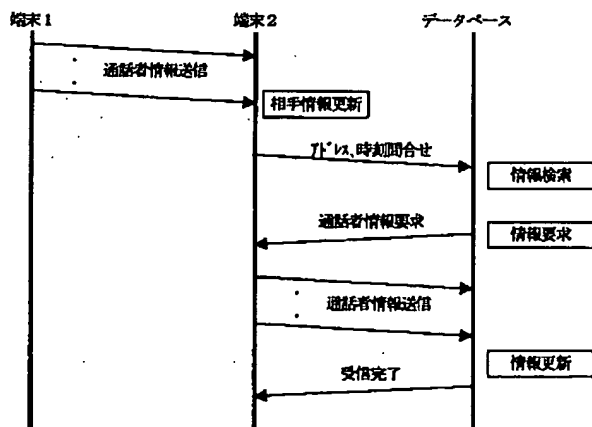
共有電話帳データベース操作時の
端末の表示例
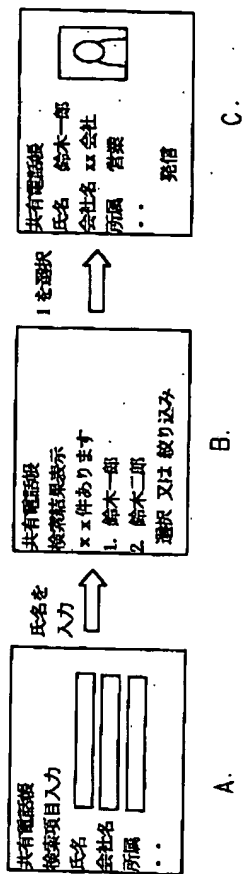
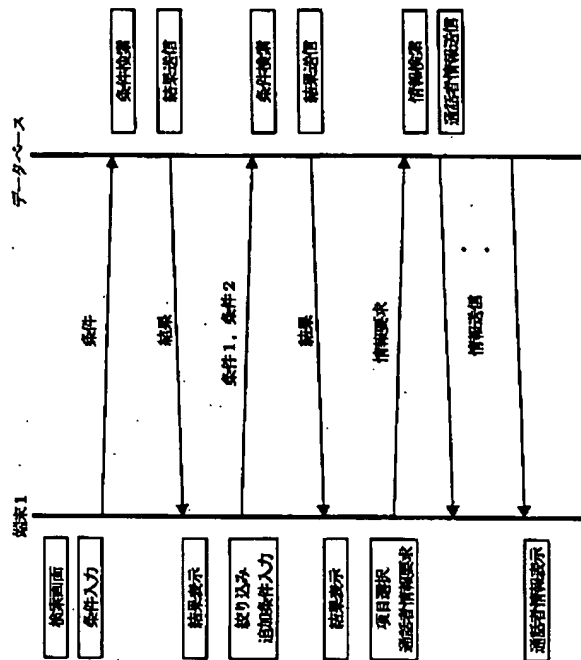

[Drawing 29]

2者通話中に第3の端末からの着信が
発生した場合の動作シーケンス
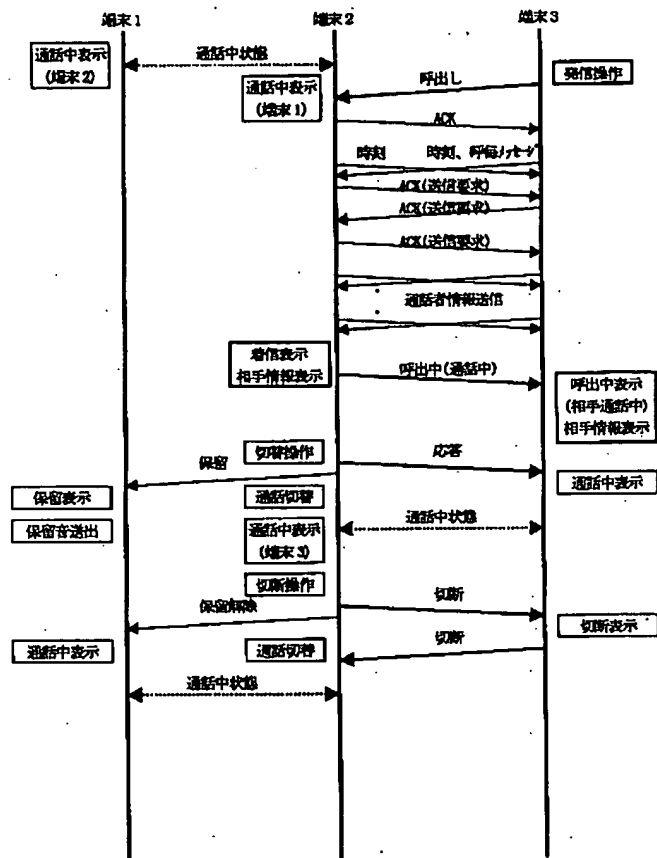
[Drawing 30]
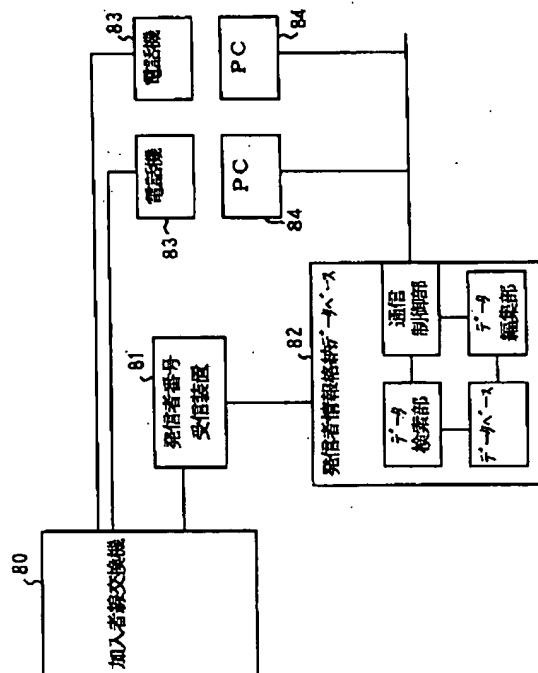通話者情報を格納したデータベース更新の
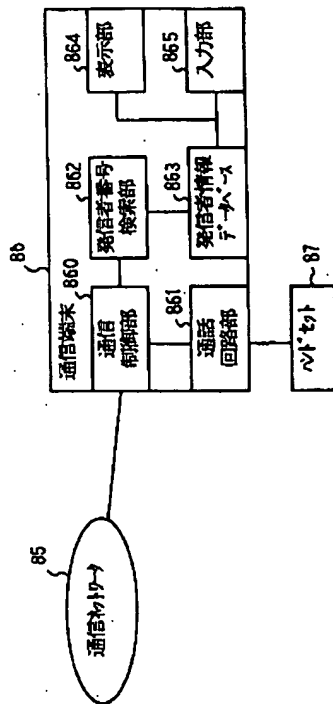動作シーケンス

[Drawing 31]

通話者情報問合せ時の通信端末と
データベース間の動作シーケンス

[Drawing 32]

従来例１の構成

[Drawing 33]

従来例2の構成

[Translation done.]